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The Journal

OF

The Society of Architects.

THE

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

The Preservation of Ancient Monuments.

The Case for the Owner.

The Duke of Rutland, writing to *The Times*, refers to the drastic suggestions made as to the course which Parliament should take in order to prevent in the future any place or work of public interest being sold to foreign buyers, and while strongly deprecating any unnecessary sale of historic objects suggests that they are caused by recent legislation, and the fear of future legislation compels owners of works of art of all sorts to sell them at the highest possible price in order to meet the financial demands made on their estates by the Government. He stigmatizes as an outrage on the liberty of the subject, only equalled by peaceful picketing, the proposal that historical monuments should be scheduled, and an inspector appointed to give or refuse leave to the unfortunate owners to sell or not. He points out that Italy has been quoted as the country whose laws relating to the retention of objects of artistic value we should copy, but so far from benefiting by those laws Italy has suffered greatly.

If many of the works of art now in Italy had been allowed to be sold, hundreds of thousands of pounds would have been brought into and circulated through what is a poor country; and endless people would have been greatly relieved by such transactions. The example of Italy may be cited, but only as one which should not be copied by England.

Proceedings.

THE Twenty-seventh Annual General Meeting of The Society of Architects was held at 28, Bedford Square, W.C., on Thursday, October 19th, 1911, at 8.0 p.m.

THE PRESIDENT, Mr. Geo. E. Bond, J.P.,, having taken the Chair, it was resolved that the minutes of the previous Annual General Meeting and of the Special General Meetings held on April 20th and May 11th, having been printed in the Journal be taken as read. The minutes were then confirmed and signed.

Thirty nominations for membership and nineteen for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Burton. Duncan McLean,	Johannesburg.
Cavanagh. Edmund,	2, Selwyn Road, Upton Manor.
Fearnside. Reginald Kitto,	Velendra Place, Whitchurch, Cardiff.
Lighbody. Thomas Henry,	20, Marlowes, Hemel Hempstead.
Pascoe. Herbert,	67, Leicester Place, Leeds.
Scales. Sidney Geoffrey,	7, Bolton Road, Eastbourne.
Sinclair. Duncan MacDonald,	Loveday House, Loveday Street, Johannesburg.
Smith. Albert George,	13, Beech Croft Road, Oxford.
Stuttle, Benjamin William,	15, Latimer Road, Forest Gate.
Williams. John Clifford,	222, Park Road, Crouch End, N.

THE PRESIDENT announced that after the reading of the Council's Annual Report, Mr. R. G. Lovell (Member of Council), would present his Report on the Ninth International Congress of Architects at Rome, which he had attended as the Official Delegate of the Society.

The Council's Twenty-seventh Annual Report having been read by the Assistant Secretary, COL. F. S. LESLIE, R.E., Hon. Secretary, moved the adoption of the Report, and said that it showed what a strenuous year the Council had passed through. The coming session would he thought prove more arduous than the one just completed.

MR. PERCY B. TUBBS, F.R.I.B.A., Vice-President, seconded the adoption of the Report, and there being no questions raised, the President then put the motion to the meeting, and the Report was unanimously adopted.

MR. LOVELL then read his Report, as the Official Delegate of the Society to the Ninth International Congress of Architects at Rome, October, 1911.

MR. ELLIS MARSLAND, Past Honorary Secretary, proposed a very hearty vote of thanks to Mr. Lovell for his extremely interesting Report of the Congress. It was satisfactory to learn that at last the Government had thought fit to be represented officially at such Congresses, and also that the London County Council had appointed an official Delegate to the Conference in the person of their architect. Such delegates were conspicuous by their absence at the Congress which he had the honour of attending at Vienna some years ago as the representative of the Society.

Mr. G. A. T. Middleton, A.R.I.B.A., Past Vice-President, in seconding the vote of thanks, congratulated the Society upon having had such a representative as Mr. Lovell at Rome. He had brought back a most exhaustive and valuable Report, and it was doubtful whether any other Member of the Society could have been found who understood and spoke all the four languages in which the proceedings of the Congress took place.

The President supported the proposition which, upon being put to the meeting, was carried with acclamation.

Mr. R. G. Lovell (Member of Council), in reply, said it gave him very great pleasure to be able to serve the Society in the way he had, and he thanked the meeting for its attention in receiving his Report.

Scrutineers' Report.

The Scrutineers, Messrs. Ellis Marsland, and John Todd, presented their Report, showing that two hundred and thirty-nine voting papers had been received, of which six were invalid.

Number of Ballot Papers received		239
" " " ..	Invalid	6
" " " ..	Valid	233

Officers.

Elected.

President.	Geo. E. Bond, J.P.	233
Vice-President.	E. C. P. Monson, F.R.I.B.A., F.S.I.	233
"	Percy B. Tubbs, F.R.I.B.A.	233
Hon. Secretary.	Col. F. S. Leslie, R.E. (ret.) (*Past Vice-President*) ..	232
" *Treasurer.*	E. J. Partridge, F.S.I.	233
" *Librarian.*	G. A. T. Middleton, A.R.I.B.A., (*Past Vice-President*)	232

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Elected.

A. J. Murgatroyd	231	A. Alban H. Scott	207
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G. A. Harrison	218	P. M. Beaumont, A.M.Inst.C.E. ..	185
R. Willock, F.R.I.B.A. ..	217	W. H. May	185
J. Herbert Pearson ..	215	B. R. Tucker, M.R.San.Inst. ..	181
C. E. Jackson	212	Anthony Scott	180
T. Stewart Inglis	207	G. H. Paine	180

Not Elected.

D. Pugh-Jones, F.S.I., 160. T. S. Vickery, 159. G. A. Birkenhead, 150.

JOHN TODD,
ELLIS MARSLAND, } *Scrutineers.*

19*th October*, 1911.

On the proposition of the PRESIDENT, seconded by MR. E. C. P. MONSON, F.R.I.B.A., Vice-President, the Scrutineers Report was unanimously adopted.

THE PRESIDENT, Mr. Geo. E. Bond, J.P., thanked the meeting and the members generally for re-electing him to the Office of President, and said that nothing but the fact that the negotiations with the R.I.B.A. were incomplete would have induced him to accept the position again. At the same time he was grateful for their renewed confidence.

MR. G. H. PAINE (Member of Council), proposed a vote of thanks to the Scrutineers for their duties in connection with the Ballot, which was seconded by Mr. B. R. TUCKER, M.R.SAN.INST. (Member of Council), and carried unanimously.

MR. P. A. COAD proposed a vote of thanks to the retiring Members of the Council, which was seconded by MR. C. L. R. TUDOR, and carried unanimously.

MR. CHAS. F. MITCHELL, in proposing a vote of thanks to the Honorary Officers, said that the work of the Council had been described as strenuous, and he felt sure that all those who had anything to do with Committees would agree with him that it required the eloquence of Lord Rosebery to sufficiently thank those gentlemen for their services during the past Session. They had given freely a great amount of time to the service of the Society, and thoroughly deserved their hearty thanks. Members would agree with him that those positions were positions of great honour.

MR. H. T. COVER seconded the proposition, which was carried unanimously.

COL. F. S. LESLIE, R.E., Hon. Secretary, said it afforded him much pleasure to work for the Society, and thanked them for according them such a unanimous and hearty vote of thanks. The distinguishing characteristic of their Committee and Council Meetings was the celerity with which the work was got through, there was no windy talk and no use of acrimonious words. He did not mean that the work was hastily done, but that having been well considered it was quickly despatched.

MR. EDWIN J. SADGROVE, F.R.I.B.A., Past Hon. Treasurer, said it was a pleasure to have acted as Honorary Treasurer, and though he could not say that at all times in dealing with accounts he had passed everything as presented, he had conscientiously done his work and he thought the accounts to be presented at the end of the year would show that the duties had been properly discharged.

MR. H. FREYBERG, F.S.I., in proposing a vote of thanks to the Secretary and the Permanent Staff of the Society, said that while listening to the Council's Annual Report where they learnt that everything had been held up pending the negotiations with the Royal Institute, they felt some sympathy with the Secretary and the Members of the Staff for what must have been a year of strenuous work attended by much anxiety. The thanks of the Society were thoroughly deserved and it would perhaps encourage them in their work of the coming Session.

Mr. Arthur H. Salisbury in seconding the vote of thanks referred to the genial manner of the Secretary and the hearty welcome he, on all occasions, accorded to the Members. He and his Assistant formed a happy link between the Council and the Members generally.

The President supported the proposition, and said that Col. Leslie had already referred to the expeditious way in which the work of the Society was performed in Council and Committee. This was rendered possible by the fact that everything was very carefully prepared for them beforehand by their Secretary. Mr. Butler had everything at his fingers' ends, and consequently the Council experienced no difficulty in dealing with their work. The work of the Assistant Secretary, Mr. Wanmer, was also thoroughly and quickly done.

The proposition was then put to the meeting, and carried unanimously.

The Secretary in reply, said it encouraged the staff to feel that they had the confidence of the Council and of the members generally, to whom he desired to express his thanks for their kind consideration on all occasions. He also expressed his appreciation of the services rendered to him by his chief assistant, Mr. Wanmer, and the other members of the Staff.

Mr. John Todd proposed that a very hearty vote of thanks be accorded to the President for his work during the year. Mr. Bond was, he said, a man of sterling worth, a great fighter in the cause of Registration, and one who spared no pains, no effort, and no time, in the Society's interests. He was sure they would all wish him better health and even greater successes in his office in the future.

Col. F. S. Leslie, r.e., in seconding the proposition, said that Mr. Todd and the general body of Members saw principally the social side of their President, whereas, they in the Council, and especially those Members of it who were also Members of the Joint Registration Committee, saw the other side, sometimes the fighting side. He did not think they would have done so well in their negotiations with the Royal Institute if the Society's President had not been occasionally inclined to firmness.

Mr. Todd then put the motion to the meeting, and it was carried with acclamation.

Mr. Geo. E. Bond, j.p., in returning thanks, said he hoped to have sufficient health to attend to his duties as regularly as he had during the recent Session. He had only missed one Committee Meeting, and he hoped to be able to say as much next year, or by such time as the Society was absorbed by the Royal Institute. He was looking forward to a very arduous year, and if the negotiations were successful, their work would for a time be greater than it had ever been before.

The proceedings then terminated.

Twenty-Seventh Annual Report of the Council of The Society of Architects.

YOUR Council have pleasure in drawing the attention of the Members to the Twenty-seventh Annual Report.

Since last October your Council have met fourteen times, and at their first meeting they appointed the Standing Committees, who subsequently elected their Chairmen as follows: Literature (E. J. PARTRIDGE, F.S.I); Examination (Professor HENRY ADAMS, M.INST.C.E.); General Purpose (E. J. PARTRIDGE, F.S.I.); Finance (B. R. TUCKER, M.R.SAN.INST., *Past Hon. Treasurer*); Practice (E. C. P. MONSON, F.R.I.B.A.); Registration (G. E. BOND, J.P., *President*).

These Committees have held a total of six meetings, in addition to which a number of Sub-Committees have been appointed and have met and dealt with the matters referred to them.

One hundred and thirty-nine Members, four Honorary Members and thirty-nine Students have been elected, a total of one hundred and eighty-two, and after allowing for deaths, removals, resignations and lapses, the total Membership numbers one thousand and seventy-six.

The number of new Members and Students constitutes a record for recent years, but this number would have been considerably exceeded had not your Council closed the list in April last, in accordance with the spirit of the agreement for the fusion of the Society with the Royal Institute, in anticipation of the matter being concluded at an early date. The list has since been re-opened, but Members desirous of recommending candidates should bear in mind the fact that it is liable to be closed at any time.

The Society has been honoured by the acceptance of Honorary Membership on the part of H.R.H. Prince Luis of Spain; The Rt. Hon. Lord Saye and Sele; The Rt. Hon. Lord Monkswell; and Sir George Riddell.

Your Council regret the loss which the Society has sustained by the death of the following Members and Students: W. ANDREW, Parkstone; J. T. ASHTON, Altrincham; WM. BOYER, Peterborough; W. R. COURT, Liverpool; H. CRUTCHLEY, Wakefield; GEO. HEATON, Wigan; JOWETT KENDAL, Pudsey; P. MUNRO, Bristol; W. J. ROWELL, Newton Abbott; E. SKINNER, F.R.I.B.A., Colombo; W. T. WIRE, London; M. B. COLLINS, Redruth (*Student*).

They have also to record with regret the death of HIS HONOUR JUDGE EMDEN, a Member of the Registration Committee of the Society. The late Judge took a very active part and interest in promoting the first Registration Bill.

Registration.—Last October a Sub-Committee was appointed by your Council to revise the Bill and report upon any amendments which they might consider desirable on points of detail without affecting the principle involved. This was in view of a course of action which your Council had decided to pursue to get the Bill considered during the recent Parliamentary Session. The Bill, having been practically redrafted by the Sub-Committee was approved by your Council, and everything was in readiness for an active propaganda, when some of the members of your Council were approached by representatives of the Royal Institute, and it became apparent, after friendly discussion, that some basis might possibly be found for mutual agreement on the broad question of general principles, and after due consideration your Council suspended further action for the time being.

Representatives of your Council subsequently met representatives of the R.I.B.A. Council at an informal conference at Conduit Street, as a result of which the Councils of both bodies appointed official delegates to meet and further discuss the question.

The first Joint Conference was held in January and was followed by other meetings, finally culminating in an agreement on the general principles of a Registration Bill, and proposals for the election of Members and Students of the Society into the various classes of membership in the Royal Institute on certain conditions.

The principles of the proposed Bill and the conditions and terms of the scheme for the fusion of the two bodies were made known to the Members of the Society by circular on April 4th, and the resolutions necessary for carrying the scheme into effect so far as regards the Society, were passed by the Members either unanimously or by very large majorities at a Special General Meeting, held on April 20th. A confirmatory Meeting was called for May 11th, an undertaking having been given previously by the Chairman, that the agreement between the two Councils should be executed prior to the latter meeting.

In the meantime, the proposals as affecting the Royal Institute were approved and confirmed by the general body of their Members, and all that remained to complete the matter was the signing of the agreement and the confirmation by the Society's Members of the resolutions passed by them.

On the eve of the Society's confirmatory meeting, intimation was received by your Council that the R.I.B.A. Council were advised that they had not the power under their Charter to enter into the agreement, and as the Society could not definitely commit itself without this safeguard, your Council decided to suggest to the Members the adjournment of the meeting pending the completion and execution of the agreement.

The meeting was consequently adjourned, and in due course your Council received an intimation from the Council of the Royal Institute that they proposed to make an application to the Privy Council for a supplemental Charter which would give them the necessary powers to enter into the agreement.

In the meantime, owing to all its activities having been temporarily suspended, the Society has been put to the gravest inconvenience, and your Council were recently compelled to consider the position in view of the new Session.

After careful deliberation it was decided that the work of the Society should continue without reference to the negotiations proceeding between your Council and the Council of the Royal Institute. Everything, therefore, is proceeding as usual and will continue to do so unless the negotiations are carried through, in which case all details then arising will be adjusted.

In the meantime, your Council feel sure that the Members will not take any steps which will tend to prejudice the Society in any way, or make the position of the Council more difficult in regard to the negotiations still going on.

South African Branch.—The Fourth Annual General Meeting of the Branch was held in November last, when Mr. G. S. Burt Andrews was elected President; Mr. M. J. Harris, Honorary Treasurer and Mr. E. H. Waugh re-elected Honorary Secretary.

The total Membership of the Branch is forty-eight; the statement of accounts shows an increased credit balance, and there is every indication that the Branch is making excellent progress and doing good work. Examinations were held in Johannesburg and Maritzburg.

The following addition to the Rules of the Branch has been confirmed by your Council :—

> "The retiring President shall be ex-officio a Member of the Committee for the year succeeding the date of his retirement from the Presidentship."

Last December a conference of South African Architects was held at Cape Town, to consider a Bill which had been drafted for presentation to the Government of the Union of South Africa for the Registration of Architects. The Society's Branch was represented by Mr. E. H. Waugh, Local Hon. Secretary, and a resolution was passed in favour of proceeding with the Bill, and the Cape Institute of Architects was appointed the medium of communication between the profession and the Union Government.

The Branch has lent its support to a proposal for a Chair of Architecture in connection with the South African School of Mines and Technology at Johannesburg, and several of its Members are actively engaged in organizing classes in various subjects.

A number of Members are holding office on the Councils of the Association of Transvaal Architects, the Transvaal Institute of Architects, and the Natal Institute of Architects.

Representation at Congresses.—Your Council appointed Official Delegates to represent the Society at the following Congresses and Conferences :—

NATIONAL ADVISORY TOWN PLANNING CONFERENCE, Liverpool, February 23rd to 24th. Mr. Walter W. Thomas, J.P. (Past President), Liverpool ; Mr. A. J. Murgatroyd (Vice-President and Local Hon. Secretary), Manchester ; Mr. E. C. P. Monson, F.R.I.B.A. (Member of Council), London.

The Society is also represented on the National Advisory Town Planning Committee by Messrs. Percy B. Tubbs, F.R.I.B.A. (Vice-President) ; and Col. F. S. Leslie, R.E. (Hon. Secretary).

ROYAL SANITARY INSTITUTE CONGRESS, Belfast, July 24th to 29th. Mr. Anthony Scott (Past Member of Council and Local Hon. Secretary), Dublin ; Mr. G. F. Ferguson, J.P. (Member), Belfast.

NINTH INTERNATIONAL CONGRESS OF ARCHITECTS, Rome, October 2nd to 5th. Messrs. Percy B. Tubbs, F.R.I.B.A. (Vice-President), and R. G. Lovell (Member of Council).

MANSION HOUSE CONFERENCE, *re* Crystal Palace, October 23rd. Mr. Geo. E. Bond, J.P. (President), and Mr. Percy B. Tubbs, F.R.I.B.A. (Vice-President).

Architects' Benevolent Society.—Your Council, who are represented on the Council of the Architects' Benevolent Society, have been called upon in several instances for their support on behalf of previous Members or their relatives in distressed circumstances.

In several cases it has been possible for the Benevolent Society to grant relief, but the work and utility of that Society is greatly hampered by lack of funds, and your Council commend the Fund to the generous consideration of the Members.

Local Honorary Secretaries.—Your Council appointed Local Honorary Secretaries for the year, in the following centres :—

Cheshire, Cornwall, Devonshire, Dorsetshire, Durham, Gloucestershire, Hampshire, Herefordshire, Hertfordshire, Kent, Lancashire, Leicestershire, Lincolnshire, Northants, Northumberland, Oxfordshire, Shropshire, Somersetshire, Staffordshire, Surrey, Sussex, Warwickshire, Yorkshire, Cork, Dublin, Cardiganshire, Carmarthenshire, Denbighshire, Glamorganshire, Monmouthshire, Argentine Republic, British East Africa, Australia, British Columbia, Canada, China, India, New Zealand, South Africa, Tasmania.

The thanks of the Society are due to these Members for their assistance.

The Coronation.—Your Council submitted an Address of Loyalty and Congratulation to their Most Gracious Majesties King George V. and Queen Mary, on the occasion of their Coronation. The text of the Address and of His Majesty's acknowledgment was published in the Journal.

Reports of Committees.

In considering the following reports it should be borne in mind that the completion of the various schemes of development has been delayed by the negotiations with the Royal Institute.

Literature Committee.—This Committee have held six meetings, the following being the principal matters dealt with.

The papers read and discussed, and addresses given during the Session were :—

1910—Nov. 17th. Presidential Address.
,, Dec. 15th. "A Great London Improvement Scheme." By G. A. T. MIDDLETON, A.R.I.B.A. (Past Vice-President).
1911—Jan. 12th. President's Address to Students.
,, Feb. 9th. "The Turned Lattice Work of Egypt." By COL. F. S. LESLIE, R.E. (Hon. Secretary).
,, March 9th. "The Relation of Sculpture and Carved Ornament to Architecture." By W. S. FRITH.
,, April 6th. "The Evolution of Form in Silver Plate." By PERCY MACQUOID.
,, May 11th. "Hospitals." By A. SAXON SNELL, F.R.I.B.A.

Arrangements have been made whereby the Society's Journal will be found in the Reading Rooms of the Public Libraries in Bradford, Brighton, Bristol, Cambridge, Cardiff, Derby, Dublin, Edinburgh, Glasgow, Hull, Leeds, Lincoln, Manchester, Middlesbrough, Newcastle, Norwich, Nottingham, Oxford, Plymouth, Sheffield, Sunderland.

The Loan Library continues to be well used, a large number of volumes having been issued during the past year, the greater part of them through the Post.

The Library has been reorganized, additional shelving accommodation has been provided, and the books catalogued on the card index system and numbered, with a view to facilitating reference by borrowers, and economizing the time of the staff.

Gifts of books and donations to the Library Fund have been received from a number of members, authors and publishers, to whom the thanks of the Society are hereby accorded.

A number of books have also been purchased, and a definite sum has been earmarked for annual additions.

Examination Committee.—This Committee have met ten times, the following being the chief items under consideration.

Examinations to qualify for Membership were organized and held during April and October in London, Manchester, Leeds, Cardiff, Birmingham, and Oxford, as a result of which twenty-five Candidates qualified for Membership and thirty obtained Sectional Certificates. The number of Candidates has considerably increased, but the percentage of successes is still very low.

The following Members organized the Centres or acted as Moderators :—London, Col. F. S. Leslie, R.E. (Hon. Secretary), and Mr. B. R. Tucker, M.R.SAN.INST. ; Manchester, Messrs. A. J. Murgatroyd (Vice-President, Local Hon. Secretary), and

Tom Cook ; Leeds, Mr. W. S. Braithwaite (Local Hon. Secretary) ; Cardiff, Messrs. Cholton James, F.R.I.B.A. (Local Hon. Secretary), and G. A. Birkenhead (Member of Council) ; Birmingham, Messrs. J. Goodman and E. B. Davies ; Oxford, Mr. G. A. Harrison (Local Hon. Secretary) ; South Africa, Mr. E. H. Waugh (Local Hon. Secretary), and the Board of Examiners of the South African Branch.

To fill vacancies caused by the resignation of Mr. James Bartlett, one of the Examiners ; Mr. Richard Willock, F.R.I.B.A. (Member of Council) was appointed Examiner in Subject III. (*a*) Contracts and Specifications, Mr. E. J. Partridge, F.S.I. (Member of Council), in subject (*b*) Quantities and Prices of that section, and Col. F. S. Leslie, R.E. (Hon. Secretary), was appointed co-examiner with Mr. C. H. Mead (Hon. Librarian), for the Correspondence Classes.

The Examiners' Report showed a falling off in the number of Candidates, and in the standard of work submitted in these classes.

The following Students headed the lists in their respective courses and have been awarded the prizes offered by the Council : First Year, E. R. Frimston (Old Colwyn), value £1 1*s.* ; Second Year, F. P. Taylor (London), value £2 2*s.* ; Third Year, D. H. Barry (Eastbourne), value £3 3*s.*

The attention of the Committee having been called by the Council to the financial loss incurred by the Correspondence Classes, the Committee after due consideration recommended that they be discontinued after the present Session, and your Council have adopted the recommendation.

The Membership Examination scheme as a whole is under consideration with a view to developments and changes, but progress has been delayed owing to the negotiations with the Royal Institute.

Five sets of designs were received in the Travelling Studentship Competition, the subject for which was " A Social Club on a Corner Site." Mr. J. R. Leathart secured first place, and selected Norfolk and Sussex as centres for a sketching tour. Your Council has on the recommendation of the Committee approved the work done, and the balance of the award together with the Silver Medal will be presented to Mr. Leathart in due course. The Competition designs were exhibited in London previously to their being returned to their respective authors.

The Committee regret that no entries were received for the Architectural Scholarship.

The Committee have approved in principle a scheme proposed by the Students' Committee for more frequent Competitions at stated periods, in Design, Measured Drawings, and Essays. Suitable awards to be offered.

The details are under consideration, completion having been deferred pending the result of the negotiations with the Royal Institute.

Your Council having adopted in principle the recommendation of the Committee, that an Entrance Examination should be instituted for Students, have referred the matter back to the Committee to work out the details. The matter is in hand, but further progress has been delayed owing to the negotiations with the Royal Institute.

Practice Committee.—Fifteen Meetings of this Committee have been held, and the following matters have been dealt with :—

Concerted action has been taken in conjunction with the R.I.B.A. on several occasions where the conditions of Public Competitions have been considered unsatisfactory, and it is understood that in every case the Members of the Society have loyally supported the action of the Council.

A number of cases on points of practice submitted by Members have been received and dealt with by the Committee.

The Committee have under consideration the preparation of a Code of Ethics in connection with professional etiquette, but progress in this and other matters has been delayed by the negotiations with the Royal Institute.

On the recommendation of the Committee your Council memoralized the Liverpool Corporation deprecating any alteration in the Podium of St. George's Hall, such as was threatened by the scheme for the proposed Memorial to the late King Edward VII. Your Council suggested that an equestrian statue would in any case be out of place in the position proposed, and that it might be more fittingly placed elsewhere.

The present system of Balloting for the election of Officers and Council has received consideration, and a scheme has been adopted which will tend to secure greater secrecy in the ballot, and facilitate the work of the Scrutineers.

A very large number of applications for Membership and Studentship have been dealt with, and the Committee have under consideration a proposal for future developments, but this has been held in abeyance pending the negotiations with the Royal Institute.

The Committee called the attention of your Council to the procedure adopted by the Ecclesiastical Commissioners in issuing detailed designs for Parsonage Houses, together with Specifications and Bills of Quantities.

Your Council after due consideration approached the Ecclesiastical Commissioners on the matter, and have reason to believe that the protest made by them and by others will not be without effect.

On the recommendation of the Committee, your Council, with the assistance of the Society's Local Hon. Secretaries, circularized Members of Parliament calling their attention to the Copyright Bill as affecting architecture, with the result that a considerable number of them undertook to give the Bill their consideration and support.

Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, was appointed by the Council of the Royal Institute a Member of their Committee dealing with this Bill, and was the medium of expressing the views of your Council on the matter.

The Bill has now passed the report stage.

Finance Committee.—This Committee have met ten times, and have dealt with all matters involving the Finances of the Society.

A Building Fund was opened at the beginning of the Session to which a number of the Members very kindly and generously contributed, but this matter in common with others has suffered from the feeling of uncertainty in the minds of Members in regard to the future of the Society.

A sum of upwards of £2,500 has been spent on adapting and furnishing the Society's Premises, and there remains an unascertained balance to be adjusted before the matter is complete. It has been found possible so far to provide for all the Society's requirements in this respect out of the funds and securities in the possession of the Society without making any permanent charge on the property.

With regard to the finances, it may be stated that during the negotiations with the Royal Institute, your Council submitted the books to the scrutiny of the Royal Institute's Auditors, assisted by a Member of their Council, with the result that they were satisfied that there was an ample margin of assets over liabilities in the event of the Society being then wound up.

The Society's Financial Year does not end until October 31st, and therefore it is impossible to accurately forecast the result for the year, but it is anticipated that the finances will be found to be in a satisfactory condition, and that the surplus will be increased.

Mr. Ellis Marsland (Past Honorary Secretary) was re-appointed Honorary Auditor for the year.

A matter which your Committee has under consideration, but which has been deferred for reasons previously stated, has been the establishment of a Sinking Fund by means of a policy of Insurance, with a view to the repayment within a specified period of the capital expended on the premises.

The Committee have had under consideration the cost incurred in carrying on the Correspondence Classes, and after due consideration expressed the opinion that from a financial point of view the continuation of the Classes could not be justified. Your Council thereupon referred the matter to the Examination Committee calling their attention to the financial question, and as a result of the recommendation of both Committees the Classes have been discontinued.

General Purposes Committee.—Five meetings of this Committee have been held, chiefly for the purpose of organizing meetings and visits.

Last November, a Reception followed by a Conversazione was held in the Society's premises, the guests being received by the President and Mrs. Bond, and the Members of the Council. The Students' Prize Designs, Measured Drawings and Sketches were on view. The President and other Members of the Council of the Royal Institute were present as guests of the Society.

The evening of January 12th was devoted to a Smoking Concert, and during the evening the President delivered an address to the Students. A similar concert was held on May 4th.

The Twenty-seventh Annual Dinner of the Society was held at the Holborn Restaurant, on April 28th, when some 230 Members and their friends attended. A number of distinguished guests honoured the Society with their presence, than whom none were more welcome than the President and other Members of the Council of the Royal Institute.

Visits have been made to the following buildings in progress and places of interest :—Royal Automobile Club, New Wesleyan Hall, Model Dwellings for the Sutton Trust, Festival of Empire (Crystal Palace), Building Trades' Exhibition, and Lambeth Palace.

Students' Committee.—The Students' Annual General Meeting was held on January 12th, when Mr. H. V. Milnes-Emerson, A.R.I.B.A. (Member of Council), was elected Chairman of the Committee ; Mr. Chas. H. Hudson, Honorary Secretary of the Section ; and Messrs. A. T. Davies, W. Kaula, A.R.I.B.A., S. R. Smith, E. F. Hubert, and H. A. Wilkinson, were elected on the Committee.

A scheme submitted by the Students for holding periodical competitions in Design, Measured Drawings and Essays, with awards attached to each, has obtained the Examination Committee's approval in principle. Mr. E. M. Leest, J.P. (Member of Council), has again very kindly offered a prize of the value of £3 3s., which it is hoped may be utilized in connection with these proposals. Progress however, has been delayed in view of the negotiations with the Royal Institute.

The Committee have organized Sketching Visits to Amersham and Dartford.

General.

The year has been one of continued progress and development, but as will have been gathered from the Committee's reports, the work of the Society has been seriously hampered by the unfortunate delay in the completion of the negotiations with the Royal Institute.

Important proposals in connection with the extension of the Library, the development and reorganization of the Examination and Membership schemes, and questions affecting every branch of the Society's work have been held up.

The delay is a matter over which your Council have no control, but they feel that the issues involved in the negotiations warrant them in keeping the matter open as long as possible, and they are glad to find that in the principle involved they have, as shown by the action of the Members at the Special General Meeting, the confidence and support of the Society as a body.

Some views on the Society's Report.

" THE SOUTHERN BUILDER."

In the Annual Report which will be presented to The Society of Architects to-morrow, the keynote is struck by the following extract: " The year has been one of continued progress and development, but as will have been gathered from the Committee's reports, the work of the Society has been seriously hampered by the unfortunate delay in the completion of the negotiations with the Royal Institute.

As may be gathered from our previous expressions of opinion, we hope that the Society will have a separate existence for a long time to come.

" THE ARCHITECT AND CONTRACT REPORTER."

From the Twenty-seventh Annual Report of The Society of Architects we gather some rather interesting information which, although known for some time past to a few, is now for the first time, we believe, made public property.

The Society was founded twenty-seven years ago, we may remind our readers, for the primary purpose of promoting a Registration Bill and enlisting sufficient support to induce Parliament to make it law. The Bill has in successive years taken various forms and has on several occasions passed its second reading. It has usually been met with opposition, open or covert, from the ruling spirits of the Royal Institute of British Architects.

During the past year, however, a change has occurred, and the Council of the Royal Institute has so far modified its policy as to give effect to the general desire of the majority of its own members and to formulate the principles of a Bill which the Society, with a most commendable spirit of self-effacement, was prepared to accept in the place of that drafted by itself.

Not only was the Society willing to accept the Bill of the Royal Institute, but to further the cause of registration and to enable the architectural profession to present an united front to the outside public on the question, it was ready to merge its identity in that of the Royal Institute by accepting a scheme for the fusion of the two bodies, arranging for the election of members and students of the Society into the various classes of membership in the Royal Institute.

An agreement to this effect between the two Councils was approved by the members of the Society in terms of a series of resolutions passed either unanimously or by very large majorities at a special general meeting held on April 20th last. It could scarcely be expected that any scheme for the fusion of the two bodies would meet with the unanimous approval of the members of both, since any such scheme must in fairness entail concessions on both sides. It is not surprising that in both the Society and the Royal Institute there are some members who look askance at the concessions, and in the Institute some of these have discovered a legal flaw in the agreement which was on the eve of ratification by both the Royal Institute and the Society. To overcome this legal flaw the Council of the Institute have intimated to the Council of the Society that they propose to make an application to the Privy Council for a supplemental charter which will give them the necessary powers to enter into the proposed agreement.

Had the proposed agreement for fusion been duly ratified by both bodies it is probable that the twenty-seventh year of existence of the Society as a separate entity would have been its last, but in view of the complication that has risen it is only right that the Council of the Society should proceed with the usual programme of active work without reference to the negotiations still proceeding between the Councils of the two bodies.

It cannot be denied that during the twenty-seven years of its existence The Society of Architects has not only done good work in furthering the cause of registration, which was the motive for its inception, but has established for itself a well-recognized position amongst both architects and the public as a representative body of the profession. A body with a membership of one thousand and seventy-six cannot be considered a negligible element in the world of architecture, whilst in the eyes of the general public the Society bulks as largely as the Institute.

The Society has not and does not confine its energies to the propaganda of registration, but has organized all the usual machinery of a professional or learned society. It holds meetings for the reading of papers, for discussion and for social intercourse. It has formed and maintains a library. It holds examinations to qualify for membership, and that these examinations are bona fide in character is shown by the fact that the percentage of candidates who are admitted is very low. The Society also includes a student section amongst its activities, and provides for the students both instruction and prizes.

As a representative professional body the Society has, as detailed in the report, taken action and exerted influence in public affairs with which architects and architecture are concerned. In conjunction with the Royal Institute it has moved on several occasions where the conditions of public competitions have been considered unsatisfactory. The Society's Practice Committee have under consideration the preparation of what is urgently required in the architectural profession, a code of ethics in connection with professional etiquette. This is an exceedingly difficult subject to tackle, and if the Society can evolve a code which shall meet with general acceptance they will deserve the thanks of the whole profession and merit a reputation for constructive political ability which will place them ahead of the slow and tardy procedure of the Royal Institute, whose only contributions to the subject up to the present are a few rather ludicrous resolutions of the Council.

Other public matters in which the Society has exercised its influence are the proposed alteration of the podium of St. George's Hall, Liverpool ; the procedure of the Ecclesiastical Commissioners in issuing detailed designs for parsonage houses, together with specifications and bills of quantities ; and the Copyright Bill now before Parliament.

The Society has been able, as the result of good management and business ability, to provide itself with a permanent home, and has satisfied the auditors of the Royal Institute that in the event of the Society becoming merged in the older body there would be an ample margin of assets over liabilities.

Thus we think the Society has shown that it contains members who would be an acquisition of considerable value even to the chief representative institution of architecture, the Royal Institute of British Architects.

The Society of Architects.

Examinations for Membership.

DATE AND CENTRES.

An Examination in the following subjects will be held by The Society of Architects, in **London, Manchester, Leeds, Cardiff, Birmingham** and **Oxford,** on **April 2nd, 3rd** and **4th, 1912.**

An Examination will also be held in **Johannesburg** and other **South African Centres,** under the auspices of the South African Branch of the Society, during December, on dates to be arranged. Application should be made in the latter case to the local Hon. Secretary, Mr. Edward H. Waugh, P.O. Box, 1049, Johannesburg.

Section	I.	ARCHITECTURE.	Planning, design, architectural history.
,,	II.	BUILDING.	Construction and materials.
,,	III.	PRACTICE.	Contracts, specifications, quantities.
,,	IV.	SANITATION.	Ventilation, drainage, water supply, etc.

The latest date of entering for the Home Examination is March 11th, 1912.

Ninth International Congress of Architects, Rome, 1911.

The Society of Architects' Official Report.

The following Report, from the Society's Official Delegate, Mr. R. G. Lovell (Member of Council), was the first official information to be made public. It was presented personally by Mr. Lovell at the Society's Annual General Meeting on October 19th, 1911, having been previously received and adopted by the Council.

The thanks of the Society are due and have been accorded to Mr. Lovell for his services.

St. Moritz,
Eastbourne,
October 17th, 1911.

To the Council of The Society of Architects, London.

Gentlemen,

Ninth International Congress of Architects, Rome.

On Tuesday, October 3rd, I attended as your delegate, the Inaugural Ceremony of the Ninth International Congress of Architects, in the Hall of the Horatii and Curatii, at the Capitol, Rome. The Minister of Public Instruction welcomed us in the name of the King of Italy, and Sir Henry Tanner, as the delegate of the British Government, responded on behalf of his fellow countrymen.

I was also able to attend the five sessions of the Congress in the Congress Hall and Offices adjoining the Castle of St. Angelo. A translation of the subjects discussed and the resolutions carried is appended.

Subject VI. The desirability of a dictionary of comparative architectural terminology.—This was made clear, and the comprehensive nature of the proposed International Dictionary will be realized by referring to the trial sheet herewith. The Congress resolved that the Permanent Committee should undertake this work and that the text should be supplemented by illustrations.

Subject IV. Considerations as to Modern Architecture.—Several papers were read of widely divergent views; but the expressed and unexpressed opinions of the members were so varied and antagonistic that it was found impossible to formulate any resolution.

Subject III. The technical and artistic education of the Architect and the Architect's diploma The exercise of his profession beyond the limits of his own country.—Considerable interest and excitement was created during the discussion following the paper read by Monsieur Albert Louvet (author of the *Grand Palais des Beaux Arts*). Mr. Louvet's views were embodied in five resolutions; the first one being to the effect " that the right to practice architecture should be free in all countries." This appeared to be entirely opposed to all ideas of registration. Neither the paper nor the resolutions had been printed or translated and the necessity of following the discussion in four languages made it very difficult for the bulk of the members to properly appreciate the importance of this proposal. Your delegate was supported by Mr. W. E. Riley, the delegate of the London County Council, and strenuously opposed any voting being taken that day, until members had had an opportunity of properly understanding the resolutions. Although Mr. Louvet was willing to delete this first resolution, there was a considerable number of members who insisted upon a vote being taken. Fortunately, however, we were able to maintain our objection by a small majority, and the contentious clause was struck out. It will be noted that this resolution did admit of another construction ; namely, that an architect should be free to practise his profession beyond the limits of his own country ; but the discussion was so involved and the wording so ambigious. that the British and American contingents considered that it was more prudent to adopt the course we did. During the whole of this very important discussion, which referred principally to the education of an architect, I heard no reference whatever made to the necessity of any form of commercial training.

Extra Subject. Copyright.—The resolutions were passed practically without any discussion. They had been carefully formulated by Monsieur Doumet, the honoured President of the Permanent Committee. Monsieur J. M. Poupinel, the Secretary-General, and Monsieur Georges Harmand, Advocate and Member of the Permanent Committee. The work already done in England appears to entirely cover these resolutions.

Subject I. Reinforced concrete.—Several interesting papers were read, including one by Mr. W. E. Riley, F.R.I.B.A., which was very well received, but it was felt that the study and development of this material from an æsthetic standpoint had not made sufficient progress, and it was decided that the Congress should record no vote on the subject.

Several papers were read on—

Subject II. The duties of the Architect with regard to his employer.—A very heated discussion arose when it was urged that under certain conditions an architect should be permitted to accept payments from the builder. Mr. John Slater, B.A., F.R.I.B.A., made it quite clear to the Congress the strong views existing in our country upon this point. There appeared, in other countries, to be a certain justification for this custom. For instance, it was shown that in Spain the responsibility for the stability of a building was fixed by law upon the builder, consequently it was usual in big buildings for him to employ an architect to protect his interests while the property owner employed another architect who was usually responsible for the design and also for the foundation. The discussion brought to light so many varied views that the Congress only voted upon the main issue, namely, "That the architect should under no pretext receive fees except from his employer." The further study of this important question was referred to the Permanent Committee. I append a translation of the paper contributed on this subject by Architect Baumann, entitled " The Principles to serve as the basis of a Bill regarding the Legal Protection of the Architectural Profession." *

Subject VII. Foreign Academies in Rome.—Although the American, Spanish, and French Delegates shortly described the work which their academies were doing (principally that of research), no announcement was made as to the great work for the establishment of a British Academy in Rome. This ambitious scheme Mr. J. W. Simpson has been fathering for some time, and although his earnest efforts appear to be on the point of realization, he considered it more prudent not to emperil the ultimate success of the enterprise by any premature disclosure. It is, undoubtedly, a most praiseworthy undertaking, and one that claims the cordial support of all those who aim at raising the standard of architectural training in the British Empire.

Subject V. The carrying out of Architectural work for the State or other public bodies.—This proved possibly more contentious that any of the other subjects. The matter had been exhaustively discussed, and a decision arrived at at the last International Congress in London. The London resolution was attacked, on the one hand, by those members who desired to have a distinction drawn between the architect and the engineer and, on the other hand, by those who wished to have a distinction drawn between the official architect and the private architect. The bulk of the British members had considered it wiser to support the resolution of the London Congress, and to ask that no fresh vote should be taken, but upon it being decided to take a vote, they felt free to follow their individual opinions, and most of them considered that, " All public works of a monumental character should be open to public competition and not be designed by the official architects." A great deal of confusion arose in framing the various resolutions and amendments, and in properly translating into the four languages ; consequently, in recording the various votes the resulting resolutions are somewhat involved, although they represent what your delegate and the bulk of the British and Americans voted for. The official architects were naturally opposed to the last resolution and, in the confusion, a protest was lodged with the President, objecting to this resolution, on behalf of the British members. I am quite satisfied, however, that the bulk of them did vote and approve, and do now approve the resolution as it stands at present, namely, " That with the object ot obtaining monumental buildings embodying all the essentials of art. The schemes in all cases, must be prepared by qualified architects, and before the work is put in hand the schemes must be submitted to the approbation of an institution such as the Academy des Beaux Art, or to Committees the majority of whose members are architects."

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* We hope to publish this in due course.

Earthquake Commission.—The resolution asking the Government of Italy to take the initiative in this matter were passed without any discussion.

Next International Conference.—It had been exhaustively discussed by the Permanent Committee, and decided that the next Conference should take place at St. Petersburg, in 1914. A cordial welcome was promised by the Count de Suzor, the delegate from the Russian Government, to all those who would go. It is suggested that the Conference should take place in the winter, during the period of the high season at St. Petersburg. The general meeting of the Congress unanimously confirmed the decision of the Permanent Committee.

We were given to understand that only about 500 members and associates had inscribed, no official list was forthcoming before we left Rome. The British numbered about 70, and we believe they were the most numerous, being closely followed in numbers by the Germans. It is said that many absentees were occasioned by the exaggerated reports of the seriousness of the plague in Italy, and in addition many Roman Catholics declined to attend a Congress held as part of a festival to celebrate the Fiftieth Anniversary of United Italy, and the abolition of the Papal Temporal Power.

It was evident on all sides that our hosts and confreres, the Italian architects, did everything in their power to render our stay agreeable and entertaining. Possibly, we Britishers were too exacting in requiring the Congress meetings to be of a more formal character. It was repeatedly stated that the London International Congress and the Town Planning Congress were so excellently organized that it made it almost impossible for any other city to approach them. On the other hand, we found that the generous hospitality of our hosts filled up every moment of our time to overflowing, and certainly there appeared to be more to be learnt outside than inside the Congress Hall. I therefore refer to some of the functions that your delegate was privileged to attend.

St. Angelo.—This Monument of Imperial Rome forms part of the International Exhibition. The Congress Hall and Offices are constructed in the adjacent grounds. An interesting show of retrospective art is on view both inside the Castle and in the buildings surrounding it. This becomes entirely dwarfed by the dominating influences of the towering mass of masonry, constructed by the Emperor Hadrian for his tomb, and for that of his successors. The travetine cylinder of 80 yards diameter was originally faced with marble and with columns and entablature surmounted by numerous marble statues. Its present appearance is that of a Medieval fortress, and its present name was bestowed by Pope Gregory the Great, in 590, when he beheld the Archangel Michael sheathing his sword above the Castle.

Santa Prisca.—Senor Filippo Gelassi, one of the Permanent Committee, was kind enough to include your delegate in an invitation to a luncheon here, which he offered to Sir Henry Tanner, Mr. John Slater, Mr. Collcutt, Mr. A. E. Murray, and

Mr. Henry Tanner. Santa Prisca is on the slopes of the Aventino, with beautiful views on to the ruins of the Palaces of the Cæsars on the Palatine Hill, and across these and the modern city to the distant Albani Mountains. In the valley, at our feet could be traced the form of the mighty Circus Maximus, greatest of the stadiums of ancient Rome, first erected in the time of the Tarquin Kings, and subsequently enlarged by the Emperors to accommodate over 200,000 spectators. Mr. Gelassi conducted us down to inspect the Claoca Maxima formed before the time of the "Rape of the Sabine women," to drain the swamp between the Capitol and Palatine Hills, and it is still used to drain a part of the city. A period of over 2,600 years. Mr. Gelassi also explained, that, it is now established, that the ancients only employed the famous long Roman bricks for arch and vault construction. The bricks, that are now found in wall construction, are only broken pieces which had been previously employed in some demolished building.

Victor Emmanuel Monument.—This great work designed by Count Sacconi suggests many reflections. The bulk of the sculpture, parapets, pedestals, etc., are at present only in plaster. Since 1885, the work has been progressing, and it was hurriedly completed in the present temporary manner for the celebrations this year. Many important modifications can, therefore, be made in the completed work. The main relief on either side of the standing figure of Peace is actually in duplicate, divided into sections, and ingeniously hung on internal rails so that one design can be slid behind the other. By this means the public has the opportunity of judging the work of both of the first competitors in situ. Needless to say, no expense is spared. We had the opportunity of judging the work from the roof to the basement. The honeysuckle ornament on the highest cornice is as well finished as if it were being used at the eye level. Many of us felt, that grand and mighty, as the monument appears in mass, greater dignity still might have been obtained if less ornament had been employed in the lower part; and some of our number considered that one or two less columns in the colonnade would have improved the spacing and widened the end porticos. Mr. Gelassi was able to let us see the various models prepared during the progress of the work. The original one made by Count Sacconi appeared to us much the more noble. The lower part was heavily rusticated and with only one centre opening and very little ornamentation. The whole building was three or four metres less in length with two less columns, and consequently wider spacing in the colonnade. The existing modifications became necessary, in consequence, of an important development when getting out the foundations. The construction is erected on the northern slope of the Capitol Hill, and it was found that what was supposed to be solid rock, only requiring a facing to be fixed; was so honeycombed that it had to be cleared away and high halls were formed necessitating the various windows and openings which now exist. From similar reasons the N.E. end had to be extended. While admiring the magnitude of this colossal monument to a great King, a comparison was drawn to the monument erected in London, to a great Queen ; while bounding over the ruts of the ill-kept streets, another comparison is drawn as to the more utilitarian expenditure of public money in our own country.

The Capitol.—A brilliant reception was held at this historic spot on the invitation of the Syndic. The three buildings surrounding the antique bronze statue of Marcus Aurelius are at present united at the two angles by wood and plaster constructions, repeating the façades designed by Michael Angelo. This enabled the guests to circulate freely between the well-known collections which were all seen to very great advantage by the aid of our well-informed cicerones. One interesting fact was brought home very clearly to us. We found ourselves admiring frescoes and decorative features of the XIV. and XV. centuries on the walls of a building designed by Michael Angelo, but not executed until after his death in 1564. This was explained by hearing that his façade had been applied to a medieval building of the XIII. century.

Lectures.—Commendatore Boni, who is the Curator, and is in charge, of the excavations of the Fori gave an interesting lecture, with slides, on the " Forum of Trajan," the highest development of Roman Art. He described his discovery of the grave of Trajan at the base of the column, and the method he had adopted for determining the exact length of the Roman foot ; 100, of which, represent the height of the column, including the pedestal. This, also, represents the depth of earth removed from between the Quirinal and Capitoline Hills. Professor Boni has found that 27.702 metres represent the exact length of 100 Roman feet, roughly 91 English feet, instead of about 97 English feet as previously supposed. Professor Stubben also gave a lecture with slides, on " Town Planning," similar to the one he gave at the London Town Planning Conference. He described the garden cities of England as the apogee of domestic work, but claimed that in Germany they were making great advances in the Town Planning of Towns.

Palazzo Colonna.—A luncheon was offered by the Organizing Committee to the Delegates in the Pavilion of Palazzo Colonna, and afterwards we were escorted through the famous picture galleries and gardens. Here we saw a fragment of a colossal architrave believed to have part of the main entrance to the Temple of the Sun.

Villa Albani.—With the permission of Prince Torlonia, an afternoon reception was held in the beautiful gardens and in the galleries of antique statuary.

Villa del Vascello.—A delightful garden party was offered by the Marquis Luigi Medici del Vascello. The view from the Tower over Rome and the Campagna was most extensive. The original Villa had been destroyed when the French attacked Rome in 1849, and we had the pleasure of being presented to an old gentleman who had helped to defend the place, and was one of the veterans of Garibaldi.

Villa Borghese.—A whole day was spent in and about this beautiful gallery and park which encloses the new Zoological Gardens. These certainly are the most realistic in the world. The large animals are not confined in cages, but have an open space allotted to them in which they are free to roam, the back part of this enclosure is formed by wonderfully realistic overhanging rocks with caves or dens and interspersed with cacti and other tropical plants ; apparently there is nothing but a slight wire fence to separate the animals from the visitors. Courage seems to ooze from beneath ones' boots, while watching a couple of roaring lions apparently about to choose their meal from among the spectators, of which you happen to be one. The same principle is employed here as at Hamberg, but the results obtained at Rome are much finer.

The Ethnographical Exhibition is a most comprehensive collection of typical buildings of each Italian province correct in every detail, both inside and out. To an architectural student, there is gathered together in the Piazza d'Armi, samples of all the motifs and details that he would have to search the whole of Italy to discover. It is generally admitted that nowhere has better reproductive work been seen.

The Fine Art Exhibition is also admitted to be the finest International collection of pictures ever gathered together and, to lend additional interest, the exhibits of most of the larger countries are each housed in buildings specially constructed as typical of the architecture of the country. The British Pavilion is by Mr. E. L. Lutyens, and is founded on the upper storey of St. Paul's Cathedral. It is most gratifying to know that, on all sides, it is admitted that the British collection is, by far, the best in the Exhibition. One is curious to know how such a very excellent and comprehensive collection was gathered together. All phases of British art seem to be represented. The Pre-Raphaelite men form a remarkable gathering. Although the collection in point of number and quality, surpasses any other country, the method of display is entirely eclipsed by the methods shown by Hungary, Germany and Austria. The exquisite simplicity of the whole interior arrangement, and the careful hanging of each individual picture is a study in itself. Certainly, the British Pavilion would have required enlarging to three or four times its present size to have attempted anything like it.

Model of Ancient Rome.—This is the work of Monsieur P. Bigot, who has spent seven years in careful study with the foremost archæologists, and in completing this wonderfully reproduction of the Imperial City in the IV. century, A.D. It is built to a scale of 1 to 400, and covers an area of about 150 square yards. Only the centre part of the city is shown, but it is sufficient to include the Baths of Caracalla on the South to the Mausoleum of Augustus on the North, and includes the Aventine Hill on the West to the Quirinal on the East. Nothing can equal this ambitious work as a means of reconstructing the general aspect and topography of the Capital of the world sixteen hundred years ago. Every detail of historic or architectural interest is shown. The Pantheon, rebuilt as at present, but standing amidst the Baths of Agrippa. The house where Julius Cæsar was murdered at the east of Pompeus Theatre. The river Tiber flowing from north to south and skirting the city on the west. The Busts known to have existed in the upper storeys of the Coliseum and the colossal Statue of Nero from which its name is derived. The barracks for the sailors employed to rig the sun-awning to protect the spectators. The barracks for the gladiators and arenas in which they practised. The Roman Forum in every detail, excepting of course, the well-known Phocas Column erected some four hundred years later. The Cæsars Fori and their Palaces on the Palatine. The Capitol. The Baths of Constantine. The Altar on the Quirinal raised to mark the spot where the burning City was arrested. Facing this is the Doric Temple, on the spot where Romulus appeared to the Romans after his death, telling them that he was to be deified under the name of Quirinus. On this spot now stands the Quirinal Palace of the Kings of Italy. After studying this model, modern Rome takes on quite another aspect. We can live back in the days of the Republic or of the Empire. The present busy Corso is identically the same as the Via Lata and Via Flaminia. The Column of Marcus Aurelias is in the identical spot that it was and the busy Piazzo has practically the same form. The enormous solarium or sundial has now disappeared. It was situated between the Column of Marcus Aurelius and the Mausoleum of Augustus, and was formed by a marble pavement inlaid with bronze lines. The Gnomen was formed by an Egyptian obelisk of the VII. century, B.C., which now stands facing the Chamber of Deputies. The mere contemplation of the photograph and plans, herewith, is most fascinating. When the lights were adjusted to give a moonlight effect or the effect of the rising or the setting sun, the result produced in silhouetting the contour of the ground and the buildings was most impressive, so impressive, that I believe among many, it will be the last picture to fade from the many pleasing impressions we carried away from the Ninth International Congress of Architects in Rome. The excellent arrangement made for the comfort of the members by Mr. John W. Simpson, F.R.I.B.A., the Hon. Secretary British Section of the Permanent Committee, was greatly appreciated, among others, by

Yours faithfully,
(*Signed*) R. G. LOVELL.

Ninth International Congress of Architects, Rome, October, 1911.

THE FOLLOWING TRANSLATION OF THE SUBJECTS DISCUSSED AND THE RESOLUTIONS PASSED IS APPENDED TO MR. LOVELL'S REPORT.

FIRST MEETING—4th October.

Subject VI. The desirability of a dictionary of comparative architectural terminology.

The following resolution was carried: The Congress recognized the desirability of a dictionary of comparative architectural terminology and resolved that the Permanent International Committee of Architects should organize an International Commission who shall continue the work commenced and present its work at the next International Congress.

The Congress is of opinion that drawings and sketches should accompany the text in order to make the definitions clear.

Subject IV. Considerations as to Modern Architecture.

On this subject the Congress was of opinion that no resolution should be voted.

SECOND MEETING—5th October.

Subject III. Technical and artistic education of the Architect and the Architect's Diploma. The exercise of his profession beyond the limits of his own country.

The Congress carried the following resolutions:—

(1) That the right to use the title of Architect should be reserved to those who have obtained it as a result of a proper examination passed after an artistic, technical, and scientific education.

(2) That the title of architect should be placed in the same rank as the title, Master of Arts, Doctor of Medicines, etc.

(3) That the schools of Architecture may be varied in different countries, while adhering to the same general rules.

(4) That students should not be able to enter schools of Architecture until after having obtained in previous schools the same general culture or a similar culture to that which is required in the other professions.

Extra Subject. Copyright.

The Congress draws attention, on the one hand, to the resolutions on Copyright made during the last 34 years at the International Congresses of Architects, and also at the International Congresses of Literature and Art; notably at Madrid in 1904, at London in 1906, and at Vienna in 1908.

The Congress draws attention, on the other hand, to the progress accomplished during the last 34 years in European legislation for the protection of Architectural works, notably the Spanish Law of 1879, the French Law of 1902, the German Law of 1907, and the Convention of Berne 1886, and by the Conference of Berlin of 1908, and the Congress also draws attention to the resolution made at the International Art Congress, held in Rome in April, 1911, when uniform protection was declared legitimate for all works of art, including architecture, during the life of the author, and at least for 50 years after his death.

The Congress resolved :—

(1) That Architectural work should be protected in all its artistic aspects.

(2) That Architectural designs including the designs of exterior and interior façades, the plans, sections and elevations and the decorative details, constitute the first evidence of the thought of the Architect and of the Architectural work.

(3) That the building is only a reproduction, on the ground, of the Architectural design.

The Congress confirms the resolution, that Architectural work and all the designs which compose it, together or separately, also that the construction and all other reproductions, should in all International Laws and Conventions be protected during the life of the author, and during a minimum period of at least 50 years after his death, in the same manner as all artistic works of painters, sculptors and others.

THIRD MEETING—7th October.

Subject I. Reinforced concrete, the mode of using it in different countries, and how it may be applied to great buildings as regards the technical and the decorative point of view.

On this subject the Congress determined to pass no resolution.

FOURTH MEETING—9th October.

Subject II. Duties and rights of the Architect with regard to his employer.

First resolution. The Congress decided that the architect should under no pretext receive fees except from his employer—State, Town, Adminstration or Individual.

(2) The Congress decided to refer the further study on this subject to the Permanent Committee.

Subject VII. Foreign Academies in Rome: Their history, the studies and works of the pupils, their influence in their respective countries.

No resolution was passed.

FIFTH MEETING—10th October.

Subject V. The carrying out of Architectural work for the State or other public bodies.

The Congress repeated and confirmed the resolution made in London in 1906. The Congress considered that it was necessary to carefully observe in principle a very clear division between the practice of the art of the architect and that of the engineer, and consequently the following resolutions were passed :—

(1) That Architectural works intended for the State, Municipalities or other Public Bodies should only be entrusted to qualified Architects after competitions or otherwise.

(2) That with the object of obtaining monumental buildings embodying all the essentials of Art. The schemes, in all cases, must be prepared by qualified Architects, and before the work is put in hand, the schemes must be submitted to the approbation of an Institution such as the Academie des Beaux Arts, or to Committees, the majority of whose members are architects.

Extra Proposition.

The Congress begs the Government of Italy to take the initiative in the formation of an International Commission of Representatives of Countries subjected to Earthquakes in the following manner :—

(*a*) To unite all the studies and the works which have been made, and are being made in all that concerns earthquakes, and also the stability of buildings in earthquake countries.

(*b*) To elaborate general regulations and local regulations for constructions to be built in these countries, and to require the representatives of the foreign countries present at the Ninth Congress of Architects to ask their respective Governments to create seismatic stations, where they do not yet exist.

To ask that the Earthquake Commission should be composed not only of learned geologists but of architects and engineers in order that these Commissions may, by their work, contribute to the technical and artistic solution of the question of stability of the constructions in earthquake countries.

London Architecture.

Mr. H. Guicharde Todd, F.S.A.(Scot.), (member), in an article contributed to *Greater London: Illustrated*, says the development of Greater London must be essentially architectural, as architectural expression is the true reflex of any development in the circumstances of life, as well as the lasting index to the conditions of life in any period. Architecture as the parent of the arts is everywhere, treasured in neither museums nor galleries, but a necessary adjunct of our everyday life—an artisic expression of human necessity and policy with which we all are familiar, and with which we have an intimate and personal connection. The architectural heritage is common property, and architects of the past by working in freedom and sympathy carried on the traditions which they took up, improved the heritage which was theirs, and as curators of the architectural art of their times handed it over to a succeeding generation appreciably the better for their care.

In working with such an ideal will be found the only possible and effective curtailment of the growing power of the influences which oppose the natural development of architecture.

The Copyright Bill in so far as it relates to copyright in architecture ignores this ideal and provides for the protection of architectural copyright for the life of the owner and fifty years after, damages being recoverable for infringement.

The menace to the development of art in architecture is obvious. Such excellence as our present day architecture has attained has been a gradual development, a natural development, and a rational development. Architects have worked mutually on the line of progress, and what is good in modern architecture has been largely due to the atmosphere of friendly emulation and competition in the production of good work which has characterized the last decade. The initiation of copyright in architecture will vitiate atmosphere which is favourable to artistic progress, as the architect who now studies modern architecture as a living art, to be kept alive and improved if possible, will necessarily have to study all modern works of merit to provide against any infringement of copyright, inadvertent or otherwise, which may make him liable to an action at law. He will have to study modern architecture as what he must necessarily avoid. Contemporary work will be an open book which is closed.

Such legislation will assuredly make the architect of mediocre attainments depend on his own barren genius for inspiration, and his original works will probably be still more deficient in merit than under existing conditions.

But a further menace is proposed, for a definite commercial value is to be given to architectural copyright and detailed in the scale of professional charges of the Royal Institute of British Architects, such value to be in addition to the usual architectural fees. The tendency will be for architects to strive after novelty in design, ignore the natural development of architectural art, and, by evolving buildings different from anything ever evolved, create copyright value, and this at the moment when appreciation of the best aims of architecture is beginning to be felt, when art training throughout the country is being reorganized, and when the registration of architects has become practical politics.

The Greater London of the future under such circumstances can hardly be imagined. Architects of ability and eminence will no longer be leaders of style, their works may be prohibited studies as they will naturally protect the value which this Bill confers upon them, and the progress of architectural art will be sacrificed to an insidious form of commercialism.

Designers of genius and merit, who are the natural leaders of style, and who are the real curators of architectural art, are allowing this measure of legislation to pass, and it can only be assumed that they fail to recognize their responsibilities to art, and that they welcome a still more definite line being drawn between themselves and the rank and file of a profession which can only carry on tradition if the professional atmosphere is free from such feeling as this proposed legislation will undoubtedly engender.

It must be remembered that policy in art is a very different matter from policy in general utilitarian affairs, and while it may be necessary to have restrictions on the practice of a profession which incidentally deals with matters of art, it is dangerous to the progress of art to have restrictions on the practice of art itself.

It cannot be too often emphasized that art is imitative and architectural art particularly so, whatever may be the opinion of the promoters of the Architectural Copyright Bill, and whatever success they may have in their efforts to protect copyright during the life of the owners and fifty years after.

Sir Joshua Reynolds in his sixth discourse to the students of the Royal Academy, said, "I am persuaded, that by imitation only, variety, and even originality of invention, is produced. I will go further; even genius, at least what generally is so called, is the child of imitation. . . . . I have ventured to give my opinion of what appears to me the true and only method by which an artist makes himself master of his profession; which I hold ought to be one continued course of imitation, that is not to cease but with his life."

Individuals in all communities and under any circumstances, apart from the most primitive form of life, are mutually dependent, and artists and architects are not exceptions, but are governed in their activities by this fundamental law. No work of architectural art, however original, is ever deemed excellent unless produced with some clear and obvious motive for its conception, and sufficiently imitative of former accepted excellencies, in its realization of that motive, to be a development of expression rather than a sudden demarcation from tradition and the first step in a new style. Reticence is the strength of architectural art, and any apparent striving after novelty is weakness. In the ordinary sense individuals are mutually dependent, but in architectural art the individual members of the architectural profession are dependant upon each other's development of architecture for further development. The Architectural Copyright Bill will initiate legislation interfering primarily with the architect's practical study of modern architectural development and the tendency will obviously be to make each and every architect express his art and his mission in a different and individualistic tongue.

The Bill is the outcome of an international agreement and although art is the common heritage of all nations, it is now not even to be the common heritage of all men. The nations which were signatory to this agreement have approved and initiated an artistic Babel, and in an enormous community like Greater London the consequences are likely to be very evident. It is within the bounds of possibility that any new street, as represented by the work of various architects, will exhibit a necessary variety of treatment—a dissimilarity which may quite satisfy the popular desire for novelty, and be in perfect harmony with the law on copyright, however much it may violate the canons of art. The probability is that the London fog will be welcomed and the artistic Londoner happiest " when " the ignominious details are blotted out.

In short—Commercialism is overpowering art in architecture, and by supporting the policy of copyright, architects are bowing the knee to commercialism in a way which is the more deplorable because the insidious tendencies of such a policy are little understood, being actually advocated in the interests of art and as conferring upon architectural art the crowning honour of " official recognition ! " This recognition involves the submission of subtle questions of purely artistic moment for legal decision and it may be said that the architectural fields will soon be " white already to harvest " for the lawyers, more especially when unconscious copying and similar solutions of similar problems are acknowledged to be possibilities for future legal decisions.

An alternative is to hand because the Royal Institute of British Architects has definitely adopted the policy of the Registration of Architects, and any flagrant copying could be treated as unprofessional conduct and make the offender liable to suspension or ejection from the profession.

Ruskin said that " the ' let alone ' principle is, in all things which man has to do with, the principle of death," but the Architectural Copyright Bill might well have led Halifax to say, " Laws are generally not understood by three sorts of persons, by those who make them, by those who execute them, and by those who suffer if they break them."

Sanatoria and the National Insurance Bill.

In an article published in *The Surveying and Housing World*, the author, an architect, expresses the opinion that though the Chancellor of the Exchequer places the cost of Sanatoria at £100 per bed, experience shows that a figure of £50 per bed has been attained.

The building in question is the new Phthisis Hospital attached to Clayton Workhouse, near Bradford, built from plans prepared by the Union's architect, Mr. J. Harper Bakes, M.S.A., of Leeds. The architect has tried his experiment on one of the most exposed hillsides in England with a pebble-dashed, red-tiled bungalow. For £50 a bed it is difficult to conceive the L.G.B. considering such a building to be good for more than a ten years' loan, which period was in the first instance proposed by the Department.

The architect has, however, designed the walls with a new material on which he had been experimenting, and as a result of his representations, and the data laid before the Board, the Workhouse authorities were ultimately granted a loan repayment period of twenty years.

This, then, in its way is an achievement—to have designed a building of such a character—so sound in its materials and workmanship, that it appeals to the careful experts of the L.G.B. as worth a twenty years' loan, and for only half of Mr. Lloyd George's figure of £100 a bed. An achievement too, which comes at the psychological moment when Parliament is being asked to face the question of a large expenditure on Sanatoria.

So far then as the building under consideration is the solution of the cheap provision of such hospitals, a detailed examination of its constituent parts will have interest for those architects who may be called upon to look into such matters at an early future.

The building lies on the hillside and a very considerable amount of embankment had to be formed. The foundations and the heating chamber are built of delphstone rubble, and all exposed surfaces are faced with hammer-dressed courses. The walls are covered with a proper damp-course and topped with a hard delphstone base course. On the stone base course is placed a timber wall plate, well bolted down to the rubble walls below with long bolts, which were walled fast as the work proceeded. A cheap and permanent walling is always a difficulty in this class of building, and the architect passed under consideration the multitude of methods available for the purposes of cheap building—shingles, patent tiles, slates, asbestos sheeting, concrete blocks, expanded metal, and reinforced concrete—finally, adopting a modified kind of reinforced concrete.

He erected on this base timber framing of 6 in. by 2 in. battens, placed vertically at about 4 ft. centres, with 4 in. by 2 in. cross stiffeners at about 3 ft. 6 in. centres.

Both sides of this framing are lathed with "Hy-rib" sheeting, attached by galvanized staples, so that there is a 6 in. air space all round. The external face of the walls is rough-casted or pebble-dashed with cement mortar and coarse slag (three-coat work) which has been water-proofed with a compound mixed with the cement; internally the walls are covered with a hard polished patent plaster, and all the angles are coved, those at the floor level being formed in terrazzo, so that the cheapness of the building has not been got by inattention to detail.

The walls have all the appearance of being constructed in brickwork and rough-casted, and are surprisingly rigid. This walling material called "Hy-rib," is a kind of reinforced sheet, has ridges or ribs on its surface. So far as can be seen, it pretty well does away with the necessity of framing or stoothing, and in fact, for the inside partitions no stoothing has been used.

The roof of the building is constructed with proper bindings framed in with and thoroughly well secured to the upright frames of the walls. The roof is boarded with tongued and grooved boards, covered with inodorous felt, and finally tiled with red "Eternit" tiles, with ordinary red terra-cotta tiles to hips and ridges. The ceilings are made of ordinary wood laths plastered with patent plaster.

In front of the incipient ward there is a verandah into which the beds can be wheeled. This verandah roof is covered partly with patent glazing, and the remainder with covered purlins and boards. The verandah is supported on cast-iron columns, bolted down to proper stone bases.

The floors throughout are on a solid substratum of concrete, and the floors of wards are all formed of polished pitch-pine wood blocks.

All the internal and external joinery work is equal in all respects to what has been erected in the adjoining permanent buildings, and the plumbing work and bath and lavatory fittings are of the very best class.

This hospital, which cost £1,200, is designed to take twenty-four beds, and is undoubtedly one of the smartest, brightest and most soundly constructed buildings of its class in this country, and—this is the chief point—has been built at half of the Chancellor of the Exchequer's figure.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

BOARD OF EDUCATION,
WHITEHALL, LONDON, S.W.

7th October, 1911.

Departmental Committee on School Playgrounds.

SIR,—I am directed to enclose for the information of The Society of Architects a copy of the Terms of Reference to this Committee.

I am, Sir,
Your obedient servant,
(*Signed*) L. J. MORISON,
Secretary.

The Secretary,
The Society of Architects,
28, Bedford Square, W.C.

The President of the Board of Education has appointed a Departmental Committee to inquire and report

(*a*) Whether it would be consistent with due regard to educational and hygienic considerations that the minimum standard of playground accommodation for new Public Elementary Schools prescribed in the Building Regulations of the Board of Education—viz., 30 ft. per head of accommodation—should be modified or adjusted according to the size, design or situation of Schools, the proximity of recreation grounds or open spaces, the density of population, the cost of land, or otherwise.

(*b*) How far it is possible or desirable to define more precisely the standard of playground accommodation which the Board of Education will require under the Code of Regulations for Public Elementary Schools in the case of existing Schools, or to regulate the practice of the Board of Education in dealing with cases in which the playground accommodation is considered to be insufficient.

The Committee will consist of

Mr. L. A. Selby-Bigge, C.B., Principal Assistant Secretary of the Elementary Education Branch of the Board of Education. (Chairman).
Sir George Newman, Chief Medical Officer of the Board of Education.
Mr. J. C. Iles, H.M.I., Divisional Inspector for the North-Western Division.
Mr. F. H. B. Dale, H.M.I., Divisional Inspector for the Metropolitan Division.
Mr. A. B. McLachlan, of the Local Government Board.

with Mr. L. J. Morison as Secretary.

The Tower of Saint Jacques.

An extraordinary architectural event is being celebrated in Paris just now, says the *Daily Telegraph.* It is the completion of the repairs to and the removal of the historic scaffolding from the famous Tower of Saint Jacques, known to every tourist who has ever visited Paris. The Tower of Saint Jacques, apart from being a beautiful and remarkable remnant of Gothic architecture, has been famous for two generations as the tower that is never without a scaffolding. This permanent scaffolding, with which it seemed to have been invested since prehistoric times, passed into a sort of proverb. People no longer spoke of putting things off to the Greek Kalends, but till the day when the scaffolding would be removed from the Tour Saint Jacques.

Foreigners had come to see the Exhibition in 1867, and the Tour Saint Jacques already possessed its scaffolding for repairs. They returned for the Exhibitions of 1878 and 1889, and the scaffolding was still there. Their children came for the Great Exhibition of 1900, and the Tower of Saint Jacques was literally hidden behind wood and lumber to a height of 200 ft. Then 1910 came and went, but the famous scaffolding was still with us, and now the wonderful day of deliverance has come at last.

We must not be hard on the architects, however. The order to undertake the repairs of the Tower of Saint Jacques, which might have compared with the Campanile of Venice as an attraction, was given as far back as 1850. The sum of £20,000 was then voted by the Municipality of Paris to pay for the expensive repairs. The tower was gradually to be restored to its ancient glory. It was to have the actual statues or exact copies of statues in the niches by such sculptors as Chenillon, Dantan the Elder, Bonasieux, Pascal, Grugère, Dieboblt, Vilain, Chambard, Froget, and so on. The list of sculptors alone shows the vast work to be undertaken.

The fine old tower was purchased on August 27th, 1836, for 250,100f; that is to say, for a mere song. In the course of the French Revolution, when all sorts of odd bargains were driven, the tower and the ground about it were sold for 411,200f, paid, probably, in assignats, as it was then the month of Floréal, in the year Five of glorious revoluntionary anarchy. The tower formed part of the old parochial church of the Boucherie, which dated back in part to the twelfth century, and which was restored under successive reigns and completed at last under François I. Fortunately, the architect of Paris, M. Giraud, at the time of the sale had the proviso put in that the tower should not be destroyed. The church was demolished; a market was established on the ground, and the tower was used as a shot tower.

In 1836, the heirs of the revolutionary purchasers sold out their estate, and the city of Paris stepped in, luckily, to purchase the wonderful historical monument.

Architects' Benevolent Society.

Mr. Leonard Stokes, P.R.I.B.A., in appealing for increased support points out that the Architects' Benevolent Society has been established for sixty-one years, and is the only organization specially devoted to the needs of architects or his dependent relatives fallen on evil days. The support which it has received has been far from adequate. At the present time the percentage of practising architects who contribute to its funds is very small and it is particularly desired to increase the list of annual subscribers so as to place the income of the Society on a firm financial basis.

Officers and Council of The Society of Architects, 1911-12.

The following were elected at the Annual General Meeting on Oct 19th, 1911 :—

President	Bond, Geo. E., J.P.	Rochester.
Vice-Presidents	Monson, E. C. P., F.R.I.B.A., F.S.I.	London.
,,	Tubbs, Percy B., F.R.I.B.A.	,,
Hon. Secretary	Leslie, Col. F. S., R.E. (ret.) (*Past Vice-President*)	Woolwich.
,, Treasurer	Partridge, E. J., F.S.I.	Richmond.
,, Librarian	Middleton, G. A. T., A.R.I.B.A. (*Past Vice-President*)	London.
Councillor	Adams, Henry, M.INST.C.E. (*Past Hon. Treasurer*)	,,
,,	Beaumont, P. M., A.M.INST.C.E.	Malden.
,,	Corby, J. B., F.S.I.	Stamford.
,,	Emerson, H. V. M., A.R.I.B.A.	London.
,,	Harrison, G. A.	Oxford.
,,	Inglis, T. Stewart	London.
,,	Jackson, C. E.	,,
,,	Lovell, R. G.	Eastbourne.
,,	May, W. H.	Plymouth.
,,	Mead, C. H., M.R.SAN.INST. (*Past Hon. Librarian*)	London.
,,	Murgatroyd, A. J. (*Past Vice-President*)	Manchester.
,,	Paine, G. H.	London.
,,	Pearson, J. Herbert	,,
,,	Sadgrove, E. J., F.R.I.B.A. (*Past Hon. Treasurer*)	,,
,,	Scott, Anthony	Dublin.
,,	Scott, A. Alban H.	London.
,,	Tucker, B. R., M.R.SAN.INST. (*Past Hon. Treasurer*)	,,
,,	Willock, R., F.R.I.B.A.	,,

The Society of Architects' Qualifying Examination for Membership.

At an Examination held on October 3rd, 4th and 5th, 1911, at London, Manchester, Cardiff, Oxford, Leeds and Birmingham, the following satisfied the Examiners :—

BLACKMORE, ALFRED CHAS., Belmont, Cottingham, Hull; CATLING, FRANK RICHARD, 39, Warbeck Road, Shepherd's Bush W.; CHILTON, ERNEST ALFRED, 16, Victoria Place, Eastbourne, and Molesey House, Uckfield; DAVIES, WILLIAM GEORGE, 21, Holt Road, Birkenhead; HALL, ANNIE, Ewhurst Lodge, Hill Road, Haslemere; MOULDING, LEWIS GEORGE, 107, Broadwater Road, Tottenham; PICTON, CLEMENT JOHN, 3, Park Road, Chard, Somerset; PRICE, THOMAS GEORGE, c/o Geo. Dickens Lewis, Esq., 49, North Parade, Aberystwyth; BARKER, FREDK. WM. CHAS., 98, Nevill Road, Stoke Newington; BENWELL, WALTER RICHARD, 249, Portnall Road, Maida Hill, W.; *BROWN, EDGAR OSWALD, "Hillcroft," Cross Lane, Gravesend; KEAY, W. H. LAWRENCE, 44, Arundel Gardens, W.; PETERS, KERSHAW, Technical Institute, Sheerness-on-Sea; PICKERING, JOHN, "The Knoll," Canterbury, S.; RAYSON, THOMAS, "Hughenden," Bickerton Road, Highfield, Oxford; WHITAKER, VIVIAN STANWORTH, "Kirkwood," Clitheroe Road, Brierfield, Bromley; BROMLY, ALAN, 3, Wellesley Grove, Croydon.

* Passed with Merit.

The following Students of the Society have secured Sectional Certificates :—

ARCHITECTURE (Planning, Design, and Architectural History).

BAYLIS, ARTHUR GIDLOW, Birdholme, Wath-upon-Dearne, Yorks.; BILL, EDWARD RICHARD, 7, Preston Street, Shrewsbury; DARTNALL, JAMES AMBROSE, Forest House, High Stone, Leytonstone; MATTHEWS, HAROLD EWART, The Avenue, Yeovil, Somerset; SIMPSON, ISAAC ALEXANDER, c/o Messrs. J. Burnet & Son, 239, St. Vincent Street, Glasgow; TAYLOR, FREDERICK JOHN, 137, Queen's Road, Finsbury Park.

BUILDING (Construction and Materials).

BRADLEY, WILLIAM W., 222, Rishton Lane, Great Lever, Bolton; BILL, EDWARD RICHARD, 7, Preston Street, Shrewsbury; DURY, ALAN BUXTON, Esplanade Hotel, Westcliff-on-Sea; PHAYRE, HAROLD, 14, Brougham Road, Seacombe, Cheshire; TAYLOR, FRANK PERCIVAL, Fairford House, Windmill Road, Brentford; WILKINSON, HAROLD ASCENSUS, 68, Bury Road, Noel Park, Wood Green, N.

PRACTICE (Contracts, Specifications, Quantities and Prices).

BILL, EDWARD RICHARD, 7, Preston Street, Shrewsbury; MARLES, CHARLES WRIGHT, 4, College Street, Swansea; THOMPSON, ROBERT, Brookside, Catshill, Bromsgrove.

SANITATION (Drainage, Heating, Lighting, etc.).

MATTHEWS, HAROLD EWART, The Avenue, Yeovil, Somerset; MOWBRAY, CLYDE, 4, Abbey Terrace, Llandilo; PHAYRE, HAROLD, 14, Brougham Road, Seacombe, Cheshire; ROGERS, JOHN RUSSELL, 6, High Street, Maldon, Essex; RUSSELL, GEORGE HERBERT, Highbury Lodge, Hitchin, Herts.; SYMS, REGINALD HARDY, Dalry, Kircudbrightshire, N.B.; THOMAS, JOHN RODERICK, 2, North Canton Villas, Llandilo; THOMPSON, ROBERT, Brookside, Catshill, Bromsgrove.

The next Examination will be held in London and the Provinces on April 2nd, 3rd and 4th, 1912. Syllabus on application to the Secretary.

Mainly about Members.

We regret to announce the death of the following members :—

JOWETT KENDALL, of South Parade, Pudsey, near Leeds, who died at the age of 60, had been in practice for considerably over thirty years, part of the time in conjunction with Mr. J. Harper Bakes, of Leeds. He joined the Society in 1892.

WILFRED TRAVERS WIRE, of 29, Great George Street, Westminster, was a comparatively new member, having been elected in 1907. He was articled to Mr. J. Douglass Matthews, F.R.I.B.A., and commenced practice in 1899, his work being principally of a domestic character. He was 44 years of age.

WILLIAM JOHN ROWELL, of the firm of Messrs. Rowell, Sons and Locke' architects, of Newton Abbot. For the last three years he had been in ill health and pneumonia was the immediate cause of his death, at the age of 56. He became a member of the Society in 1891. He started practice in partnership with his father and carried out many buildings in various parts of the country. Until about six years ago he was a major in the 5th Volunteer Battalion Devonshire Regiment. He joined the volunteer force in 1882, and was band president for many years ; also for some time acting quartermaster, and was awarded the V.D. for long and meritorious services.

Messrs. Morris & Ryan, Architects and Surveyors, St. Stephen's House, Victoria Embankment, Westminster, have taken MR. BERNAL J. RYAN, son of MR. W. P. RYAN, M.S.A., F.S.I., into partnership. The firm will be continued under the same title.

MR. W. C. F. GILLAM, formerly of Brighton, but now of Vancouver, has within six weeks of his arrival in that city been successful in winning in competition with sixteen other architects, the first place for a design for a Firebrick School Building, costing $48,000 for the first portion, viz., eight class rooms. The building is now in course of erection.

In view of the unwillingness of the Board of Education to pass new plans for schools designed on the central hall system, MR. W. H. ROBINSON, the Architect of the Kent Education Committee is now planning schools of the "pavilion" type, with an open court-yard between the class rooms, and a hall placed at the end of the building and forming a connecting link between the two wings. The new arrangement allows each class room to have cross-ventilation.

The Jury in the Building Trades Section of the Festival of Empire have awarded Mr. Herbert W. Matthews, the Surveyor of the Festival, the Grand Prix, for the design of the Grand Band Stand in the Empire Avenue of the Crystal Palace Grounds, the arrangements of Kiosks adjacent thereto, the general lay out of the grounds of the Palace as an Exhibition, and the disposition of the buildings, etc., and the general planning of the interior of the Crystal Palace for the purpose of an Exhibition.

St. Margaret's Parish Institute, Lowestoft, recently opened by Canon Tupper-Carey, is designed in the late Gothic style, with a façade of red brick and Bath stone dressings. It consists of a large hall on the first floor, 60 ft. by 30 ft. There are seven class rooms opening on each side, with a platform at the end, retiring rooms, and lavatories. On the ground floor are the Institute rooms, billiard room, reading room, a small hall 36 ft. by 24 ft., choir practice rooms, kitchen, guild and class rooms, and a crush hall. The architect was Mr. H. C. W. Blyth. Mr. Arthur Stebbings, the People's Warden, presented Canon Tupper-Carey with a silver trowel in the name of the Building Committee, and the architect presented him with an ebony mallet, and also presented Mr. Charlesworth the Chairman of the Building Committee, with a silver and ivory trowel.

Canterbury Cathedral.

By seven years of incessant and laborious appeals the Dean and Chapter have succeeded, at an expenditure of £25,000 (of which they have themselves contributed a tenth), in restoring to a condition of security and soundness two out of the three towers of the Cathedral—the central, or Bell Harry, or Angel, tower, and the north-western tower; but there remains the third, the south-western tower, commenced by Archbishop Chicheley in the reign of King Henry V., which, though less decayed than the other two, is also in grievous need of reparation. The pinnacles were in a dangerous state, and the greater part of them has had to be taken down. The architect's estimate for this tower amounts to about £5,500. When this is done there will remain the necessity of repairing the pinnacles of the nave. The latter work, however, may be deferred, and done gradually. But it is a matter of great urgency that they should be enabled to proceed immediately, now that the scaffolding is in its place, with the repair of the Chicheley Tower. When that is accomplished, the chief external features of the Cathedral will be permanently restored.

The Ecclesiastical Commission will give £1,000 towards the tower, but only in response to the expenditure of £5,000, and a total sum of £10,000 must sooner or later be expended.

Unity in the Profession.

The Position in South Africa.

Referring to the Conference of Architects held in Cape Town last December, when it was decided to promote the passing of an Architects' Registration Act through the Union Parliament, we hear on good authority that the draft Bill is still under discussion, but difficulties are arising between the various provinces as to government and control of the details arising under the Bill. Doubts are expressed as to whether the Bill will reach Parliament owing to the differences of opinion. The Cape Institute apparently desire to bring all professional matters within the scope of the Bill, while others think it should be confined to matters connected with the examination of candidates for registration.

The Home of the Greek Corinthian Order.

Mr. Middleton's paper to be read before the Society on December 14th, promises to be one of unusual interest. Among other matters he will deal with are Alexandria as the centre of Greek culture, and the meeting place of many influences in the 2nd and 1st centuries, B.C.; the recently discovered Catacombs, with carvings showing combined Ptolemaic, Egyptian, Assyrian and Grecian influence; Greek Corinthian Capitals in the Museum (Was Alexandria the home of the Greek Corinthian Order ?); Roman remains on the shore near Abou Kir, including extensive foundations of buildings cut in the coral rock; Byzantine Capitals in the Museum.

Opening of the New Session.

The First Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, November 16th.

Agenda :—

8 p.m. Students' Meeting for Election of Committee, etc.
8.30 p.m. Members' Ordinary Meeting.

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Presentation of Travelling Studentship Medal.
6. Auditors' Report and Balance Sheet.
7. President's Address.

Light refreshments will be served after the meeting.

THE
Journal
OF
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FOUNDED 1884. INCORPORATED 1893.

Including Transactions and Architectural Notes.

No. 50. Vol. V.] DECEMBER, 1911. [New Series.

The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Sex in Architecture.

The discussion which took place recently at the Architectural Association as to whether women could improve on the domestic convenience of the average man-planned house, was evidently not intended to be taken too seriously.

Mr. Gunn in introducing the subject, deprecated the suggestion that a man spends most of his time between his office and his club, and a woman between the kitchen passage and the linen closet, and the assumption that she was therefore better qualified than a man to grapple with the problems of domestic planning.

A man would not fix his houses round the drain plans, yet it was suggested that a woman should design them round the domestic offices.

He contrasted a woman's likings for cupboards with her distaste for pockets, based in the latter case on the dictates of fashion, and he pictured exaggerated fashions in the domestic architecture of the future, if woman got her way. He was not anxious to prove that the average woman was less likely to make a successful architect than the average man, but there was no evidence that she would make a better one.

Touching on the physical aspect of the case, Mr. Gunn thought the apparent difficulties could be got over by methods which would commend themselves to votaries of the wiggle-woggle and other violent pleasures at our educational exhibitions.

Summarizing the points he considered vital, he thought that woman's intimate touch with the working arrangements of a livable home is not so constant as it was, and in the case of a successful professional would become less so, and the man who could not grasp the relatively simple needs must be a poor architect, which remark would apply to women also. Evidence in the spheres where women held free sway, tended to show that convenience was the last consideration entertained in design.

Proceedings.

THE First Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, November 16th, 1911, at 8.30 p.m.

The President, Mr. Geo. E. Bond, J.P., having taken the Chair, it was resolved that the minutes of the previous Ordinary Meeting having been printed in the Journal be taken as read. The minutes were then confirmed and signed.

Twenty-seven nominations for membership and five for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Atkinson. Arthur Spence,	10, Richmond Terrace, Blackburn.
Berry. Joseph,	3, Market Place, Huddersfield.
Carey. James, A.M.INST.C.E.,	13, Charing Cross, S.W.
Clayton. John,	35, Saunders Road, Blackburn.
Cooper. Harry,	10, New Square, Lincoln's Inn, W.C.
Delany. Joseph F., M.R.I.A.I.,	Municipal Buildings, Cork.
Evans. Thomas Jay,	61, Munster Road, Fulham, S.W.
Hall-Jones. Frederick, F.S.I.,	Parliament Mansions, Westminster, S.W.
Harvey. Norman,	Bloemfontein, South Africa.
Humphries. Herbert Henry,	The Council House, Erdington.
Jackson. Harry,	10, South Street, Finsbury, E.C.
Lister. Alfred Henry,	8, Waterloo Place, Pall Mall, S.W.
Machattie. John Macintosh,	13, Charing Cross, S.W.
Moffat. John Abram,	Johannesburg, South Africa.
Moore. James, A.M.INST.C.E.,	19, Nassau Street, Dublin.
Moss. Arthur Wellesley,	Albion Square, Hanley.
Parsons. Frank Bernard,	105, Colmore Row, Birmingham.
Peacock. Charles Russell,	The Royal Metal Exchange, Swansea.
Rigg. Richard Morton,	46, King Street, Penrith.
Rogerson. Harold William,	13, Cheapside, Bradford.
Sachs. Edwin Otto,	8, Waterloo Place, Pall Mall, S.W.
Salisbury. Stanley,	Limbrick Hall, Harpenden.
Sharman. John Melford,	Wellingborough.
Shrimpton. Samuel Norman,	Victoria Road, Knighton.
Taylor. Joseph James,	Post Office Chambers, Darlington.
Thomas. David John,	High Street, Blackwood, Mon.
Vernon-Inkpen. George Charles, F.S.I.,	40, Commercial Road, Portsmouth.
Wilkinson. James Richard,	13, Regent Street, Barnsley.
Wood. Absalom Reade,	Tunstall.

As Students :—

Ash. Gilbert Douglas,	Devizes, Wilts.
Balmer. Stanley,	162, Whitfield Street, Fitzroy Square, W.
Bedington. Alfred Christopher,	14, Brecknock Road, Knowle, Bristol.
Cable. Charles John,	2, Vine Place, Sevenoaks.
Clach. John,	Lynfield, Park Hill Road, Sidcup.
Clough. John,	50, Hitkin Street, Accrington.
Graham. Henry Irving,	Eller Bank, Harrington, Cumberland.
Haigh. William Marshall Norman,	Studheim, Eccleshill, Bradford.
Hale. Charles Kenneth Teague,	Bilson Schools, Cinderford, Gloucs.
Isaac. William John,	72, Bewsey Street, Warrington.
Keeble. Percy Thomas,	62, King Street, Maldon.
Lowe. James Wilfred,	Victoria House, Westhoughton.
Mason. Harold Swaffer,	St. Margaret's, The Avenue, Gravesend.
Millar. Taliesin,	Forest Cottage, Mountain Ash, Glam.
Morris. Percy,	Town Hall, Nelson, Lancs.
Roberts. Charles Henry,	159, Christchurch Road, Boscombe.
Thurston. Sidney Walter,	Church Street, Newent, Gloucs.
Ward. John Ernest,	4, Market Place, Leicester.
Whitaker. John,	33, Ormerod Road, Burnley, Lancs.

The President then handed Mr. J. R. Leathart, the Winner of the Society's Travelling Studentship, 1911 the Silver Medal and a Cheque for £10, the latter being the balance of the Award of £25. The Chairman heartily congratulated the recipient on the work which he had submitted both in the Competition and as the result of his subsequent Sketching Tour. Mr. Leathart's drawings together with others were on view.

Auditors' Report and Balance Sheet.

Mr. Ellis Marsland (Hon. Auditor), in presenting the Auditors' Report and Balance Sheet for the year ended October 31st, 1911, said the income showed an increase over last year of £666, chiefly due to an increase in the Subscriptions of £176, in Entrance Fees of £195, in Examination Fees of £62, and in revenue from Publications of £214.

There was an increase in the expenditure for the year for general and house expenses of £83, due to the maintenance of the establishment and new premises. The legal expenses included all those connected with the new premises besides the more or less routine items. The general postages and printing and stationery show a slight increase, and there was a decrease in the amount paid for rent, rates, etc., of £125, due to the fact that the rent of the new premises did not begin to accrue until next September.

The other items were practically normal, and did not call for comment, the net result being a surplus for the year of £626 1s. 3d., which is a record above any former years. With regard to the Society's liabilities as set out in the Balance Sheet, he pointed out that the loan from the Bank had been reduced since October 31st from £1,500 to £1,100, and the total surplus of assets over liabilities was £2,626. The expenses of any one year were bound to vary according to the amount and character of the work which the Council was called upon to undertake in the interests of the Society. It was satisfactory to find that the first year of the Society in its new home had been the most successful of its whole existence, and that the action of their Council in providing for the present and future needs of the Society in the way of accommodation had been so far justified.

The assets of the Society had considerably appreciated since last year by the completion and furnishing of the premises. It would be noted with satisfaction that the amount outstanding in Members' subscriptions was very considerably less than last year.

Dealing with the progress of the Society during the past few years, he thought that at the present moment a graphic statement shewing the position of the Society from 1898 to the present date might be of some interest to the Members, and a reference to the Chart prepared by the Secretary would enable them to see at a glance the progress of the Society and its position in any one of those years.

The diagram hardly called for explanation, obviously it showed that the progressive policy of the Council had borne fruit, and it emphasised the fact that in order to obtain good results one must spend money freely although judiciously.

The difference between the lines of income and expenditure shewed automatically the deficit or surplus in any one year, and it would be observed that there had been a rapid rise in the income up to 1902, followed by a drop for two years, and succeeded by a still more rapid rise up to date. The Subscriptions and Membership showed a steady rise all the way through.

The sudden rise from 1899 to 1900 which corresponded both in regard to Income and Subscriptions was the result of the wise and far-seeing policy of the then Council in raising the Annual Subscription, an act which not only met with the entire approval of the Members and greatly assisted the Society in its work, but tended to raise it also in the estimation of others, with the result that at the present moment the accounts of the Society shewed that from every point of view it never stood in a more prosperous position, and this in spite of those hindrances which had been previously alluded to in the Annual Report.

There being no questions raised, the Auditors' Report and Balance Sheet were, on the proposition of MR. MIDDLETON, seconded by Mr. A. E. PRIDMORE, unanimously adopted.

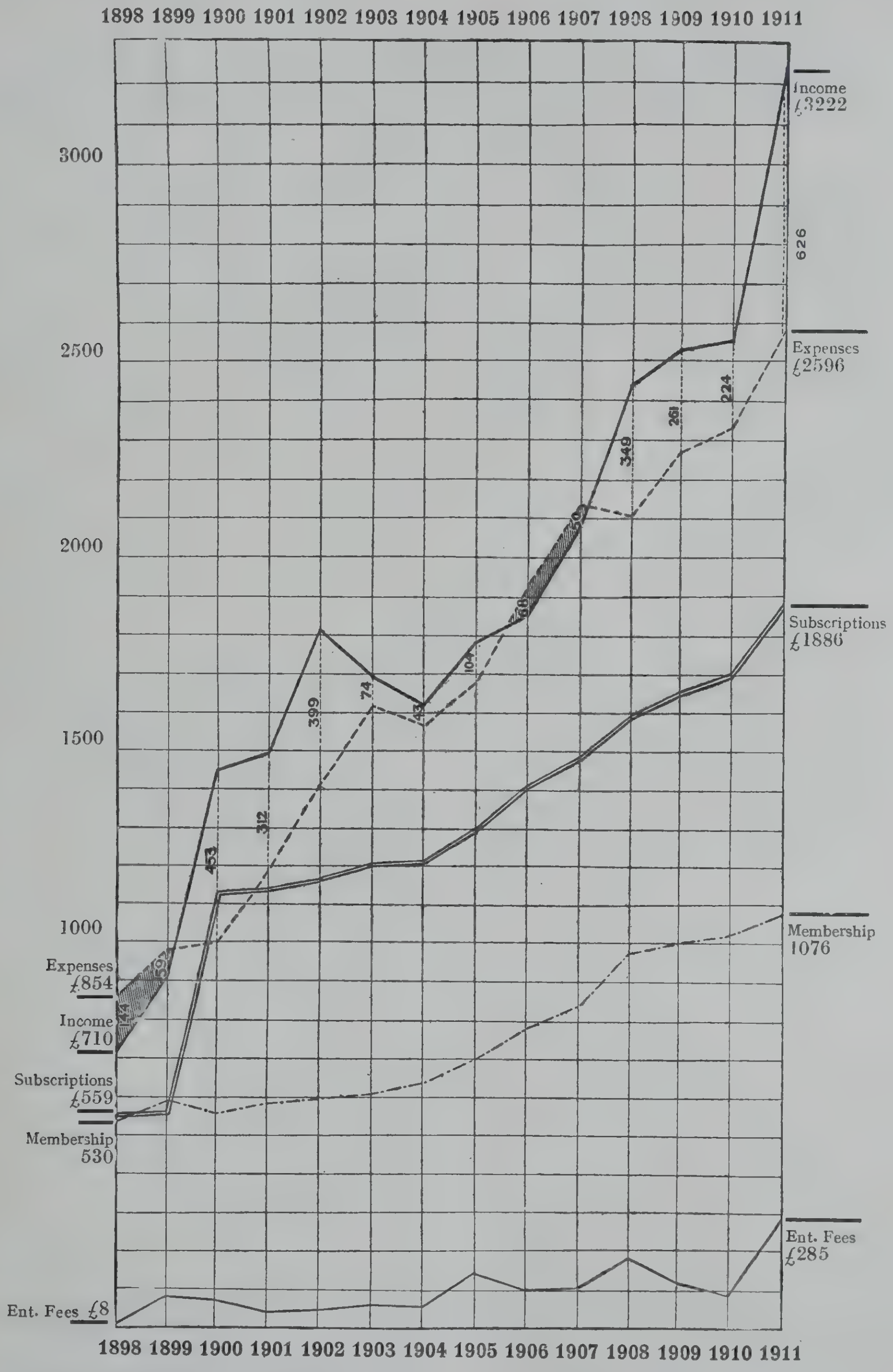

Chart showing the progress of the Society from 1898 to 1911 and its position in any intermediate year.

The Society of Architects' Revenue Account and Balance Sheet for the Year ended 31st October, 1911.

REVENUE ACCOUNT.

	£	s.	d.	£	s.	d.
To EXPENSES—						
General Expenses	118	12	7			
House Expenses	122	19	10			
Legal Expenses	115	18	6			
Postages	110	13	6			
Printing and Stationery ..	129	4	5			
Rent, Rates and Taxes ..	112	12	10			
Salaries	534	11	0			
Commission	150	1	8	1394	14	4
„ BAD DEBTS				97	6	6
„ DEPRECIATION ON FURNITURE ..				31	3	3
„ EXAMINATION EXPENSES				38	5	11
„ TRAVELLING STUDENTSHIP				25	0	0
„ JOURNAL				533	17	6
„ "YEAR BOOK PRINTING, &c." ..				146	5	11
„ CORRESPONDENCE CLASSES				69	6	0
„ DONATION TO ARCHITECTS' BENEVOLENT FUND				5	5	0
„ AMOUNT WRITTEN OFF LIBRARY ..				15	18	6
„ SOUTH AFRICAN BRANCH				35	14	0
„ ANNUAL DINNER EXPENSES ..				125	14	0
„ INTEREST ON LOAN				42	3	2
„ SOCIAL FUNCTIONS, CONVERSAZIONE, &c.				35	7	8
„ SURPLUS FOR YEAR				626	1	3
				£3222	3	0

	£	s.	d.	£	s.	d.
BY SUBSCRIPTIONS—						
Members	1765	1	0			
Students	121	5	6	1886	6	6
„ ENTRANCE FEES				285	12	0
„ EXAMINATION FEES				110	12	1
„ CORRESPONDENCE CLASSES				18	18	0
„ INTEREST ON INVESTMENTS				31	1	1
„ JOURNAL—						
Advertisements and Sales				600	13	6
„ YEAR BOOK—						
Advertisements and Sales				190	14	4
„ DONATIONS TO LIBRARY				5	5	0
„ ANNUAL DINNER				87	15	6
„ HIRE OF ROOMS				5	5	0
				£3222	3	0

BALANCE SHEET.

	£	s.	d.	£	s.	d.
To SUNDRY CREDITORS—						
Subscriptions paid in advance	21	10	6			
Sundry Creditors	433	13	11	455	4	5
„ LOAN FROM BANK	1500	0	0			
„ INTEREST TO DATE	16	10	0	1516	10	0
„ NEW PREMISES BUILDING FUND				101	14	0
SURPLUS—						
Balance as at 31st Oct., 1910	2000	4	1			
Surplus from Revenue Account, 1911	626	1	3	2626	5	4
				£4699	13	9

	£	s.	d.	£	s.	d.
BY LEASEHOLD PREMISES AT COST				2818	12	6
„ FURNITURE—						
Balance from last Account	191	19	3			
Additions during the Year	178	7	6			
	370	6	9			
Less Depreciation	31	3	3	339	3	6
„ LIBRARY—						
Balance from last Account	102	11	5			
Additions during the Year	2	9	6			
	105	0	11			
Less Depreciation	15	18	6	89	2	5
„ SUNDRY DEBTORS—						
Members	175	9	0			
Students	20	2	0			
Advertisers	190	4	11			
Suudry	36	0	2			
	421	16	1			
Less Reserve for Bad Debts	93	14	4	328	1	9
„ INVESTMENTS—						
„ £568 18 8 METROPOLITAN CONSOLIDATED 2½% STOCK @ 76½	435	4	8			
„ £750 0 0 CONSOLS @ 79¼	594	7	6	1029	12	2
„ CASH—						
Petty Cash	7	13	4			
Union of London and Smiths Bank. Current Account	87	8	1	95	1	5
				£4699	13	9

We have audited the above Balance Sheet with the books of the Society, and have obtained all the information and explanations we have required. In our opinion such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Society's affairs according to the best of our information and the explanations given us and as shewn by the books of the Society.

140, LEADENHALL STREET, E.C.
LONDON, *November* 13*th*, 1911.

ELLIS MARSLAND, *Hon. Auditor.*
BOLTON, PITT & BREDEN, *Auditors.*

THE PRESIDENT (Mr. G. E. Bond), then addressed the members on the position of the Society in relation to the Royal Institute, on the question of Registration.

MR. ALBERT E. PRIDMORE, F.S.I. (Past President), in proposing a vote of thanks to the President, congratulated him upon his election for the fourth year, and said, that one would imagine it difficult for Mr. Bond to find anything new on which to address them under the circumstances. The President's remarks had, however, been thoroughly practical and formed an excellent outline of what had been done in regard to the proposed Registration Bill. He also congratulated the Council as well as the President on the success which had so often attended the negotiations in progress for the fusion of the Society with the Royal Institute. He thought that great care had been taken to see that the interests of the members were preserved.

The address did not lend itself to a great amount of debate as they were all in accord with the President's views.

MR. G. A. T. MIDDLETON, A.R.I.B.A., Past Vice-President (Hon. Librarian), in seconding the vote of thanks, said that as a member of the Joint Committee dealing with the matter he had to speak with a certain amount of reserve, but he could confidently say that the success of the negotiations so far had been largely due to the firmness and straightforwardness of the President. He had conducted the negotiations as perfectly as they possibly could have been conducted, and no better leader could have been found than Mr. Bond. With regard to Registration, and what it would lead to, he did not look upon the exclusive powers of the Bill as being the more important but the educational. The value of the Royal Institute's examination for nearly thirty years was shown by the greatly increased importance and value of architecture. It was nine and twenty years since he sat for and passed the first examination which was held by the Royal Institute. At that time the requirements were not so many or so varied, and a man was not compelled to train in the way he had to at the present day. Even now, a man had to work hard to pass, and if the examinations were made compulsory, education would be made compulsory for all who desired to enter the profession. Good examinations led to good training and teaching, but the greatest of all the values of a Registration Act was that the general standard of architecture would advance. The work of the men at the head of the profession would improve in excellence proportionately, and would be all the better for their compulsory elementary education. Architecture was going to advance very far indeed, provided they could obtain a thoroughly sound Registration Bill, and that was what they were all aiming at. The scheme for the fusion of the Society with the Royal Institute was commending itself to all parties who had the real interests of the profession at heart, because it led to Registration. If it hit one here and another there, that one and that another must put up with the consequences for the sake of what was coming to the bulk in the future, each one now sacrificing something for the generations to come, just as England of the present day had been made by the sacrifices of their forefathers.

Mr. Albert E. Pridmore then put the motion to the meeting and it was carried with acclamation.

Mr. Bond, in reply thanked the members for their confidence in him, and said that the work he had done for the Society during the past four years had been done with the greatest possible goodwill, and he had at all times had the interests of the Society deep in his heart. He thought that they were now on the way to success, and sincerely hoped that before this time next year the whole of the arrangements would have been consummated and that he would be relieved from his present very onerous position.

The proceedings then terminated.

Students' Annual Meeting.

The Annual Meeting of the Students of The Society of Architects was held at 28, Bedford Square, on Thursday, November 16th, 1911, at 8 p.m.

The Chairman of the Section, Mr. H. V. Milnes Emerson, A.R.I.B.A., was in the Chair, and the Minutes of the previous meeting having been read, confirmed and signed, the following were elected as the Officers and Committee for 1911 and 1912: H. V. Milnes-Emerson, A.R.I.B.A., Member of Council (Chairman); A. T. Davies; E. F. Hubert; N. G. Harland; C. H. Hudson (Hon. Secretary); W. Kaula, A.R.I.B.A.; J. R. Leathart; S. R. Smith; H. A. Wilkinson.

The Society of Architects. Session 1911-12.

OPENING ADDRESS BY MR. GEO. E. BOND, J.P., *President.*

IT is with great diffidence that I appear before you for the fourth consecutive year as your President, and I feel that some explanation may be desirable in case there are any members who are not acquainted with the reasons which led to my again occupying this position.

The negotiations between the representatives of The Society and the Royal Institute (in which I have taken a prominent part) being still incomplete, I felt it would be unfair to my colleagues on the Council to desert them at this moment, though I assure you that nothing but this fact would have induced me to have accepted re-nomination, and I am aware that the circumstances to which I have referred are the principal reasons which influenced the Council in re-nominating me, and you in re-electing me.

I none the less appreciate the high honour that you have again conferred upon me, the highest which it is in the power of the Society to bestow on any of its members, but the most gratifying feature about my re-election is the assurance which it gives me of the continuance of that trust and goodwill which you have so long extended to me, and the confirmation of my belief that you are in sympathy with the policy which your Council and myself have been advocating (in view of a united profession) in regard to Registration. This being so, I am able to look forward hopefully, knowing that we may confidently rely upon you to support us in our efforts to secure at an early date the presentation to Parliament of a Registration Bill agreed upon between ourselves and the representatives of the Royal Institute, and such as will command the support of the profession as a whole.

The difficulty we have been faced with in the past is in the fact that the profession itself has been divided on this subject, or rather that there has been organized opposition to the Society's Bill, which militated against any chance of progress, as it is impossible in the present congested state of Parliamentary business to obtain a second reading for any private Member's Bill of a contentious character.

If, however, we can present to Parliament a Bill such as I have previously referred to, we can be practically assured of its securing a second reading and of its then being fully dealt with on its merits.

At present, only the general principles of a Registration Bill have been considered and agreed between the representatives of the Society and the Royal Institute, and much arduous labour and thought will be entailed before its details are ready for presentation, but if the members of the Joint Committee to whom the duty the drafting of the Bill has been delegated, can be fully assured of the sympathetic and reasonable support of the Members of their respective general bodies, they will be encouraged to proceed, and to devote their best energies to the drafting of such a measure as will, when completed, satisfy a very large majority of the profession.

In regard to the effect which the negotiations with the Royal Institute during the past twelve months have had upon the Society, you will already have gathered from the Council's Annual Report that notwithstanding the difficulties of our position, due to the unfortunate delay in the completion of these negotiations, the progress and development of the Society has been phenomenal, and but for the fact that we considered ourselves in honour bound to observe the spirit of the Agreement tentatively entered into between the Councils of the Society and the Royal Institute (which at the time we anticipated would be at once concluded) and which compelled us to close the list of applications for Membership, many more Members would have been added to the Society.

Many important and far-reaching proposals which in the majority of cases have been approved in principle by your Council and referred to the respective Committees to carry out, have been held up.

Among them the following :—

(1) The re-organization of the Examination Scheme to qualify for Membership.
(2) Qualifying Examination for admittance to the Register of Students.
(3) The institution of a code of professional ethics.
(4) Comprehensive scheme of Membership Classification.
(5) Extension and development of the Library.
(6) The provision of a Sinking Fund.

Each of these proposals and several minor ones had reached such a stage of development at the commencement of the negotiations that had they not been held in abeyance we should by this time have altered our Articles of Association to an extent which would have meant practically a reorganization of the Society.

When we found that a hitch had occurred (a matter over which we had no control) and that it was not likely that the difficulty in which the Royal Institute found itself could be got over at an early date, your Council felt that it was imperative for the Society to resume its ordinary business of admitting new Members and carrying on its other work.

With regard to the proposals referred to, it was felt that it would be wise to defer their consideration, as the negotiations between the representatives of the Society and the Royal Institute have now reached an interesting stage, amounting to a settlement so far as the two Committees are concerned.

I ought in fairness to say that the Council of the Royal Institute were not intentionally responsible for the delay referred to. You will remember that the negotiations culminated in the terms of an Agreement being approved by the Council and general body of Members of the Royal Institute, which agreement it was arranged should be executed by the Presidents on behalf of their respective bodies, and only at the last moment was it found by the Royal Institute that under their Charter the Council had no power to enter into such an Agreement.

The only way that the Royal Institute could get over the difficulty was by drafting a Supplemental Charter which would give the Council the power to enter into this Agreement.

It is anticipated that this proposed Supplemental Charter and the new By-laws will shortly be submitted for the approval of the general body of the Royal Institute, who having already endorsed the principles involved, will it may be hoped, feel bound to facilitate to the utmost of their power a settlement on the lines of the Agreement previously referred to. Subject to the approval of the Royal Institute and ratification by the Privy Council the whole matter will be submitted in detail to the Members of the Society, in which case, I feel convinced that they will in the same spirit recognize the wisdom and justice of renewing the approval which they gave it on a previous occasion.

It is because you naturally expect that at the opening meeting of the new Session some reference should be made to this subject, that I have endeavoured to define and explain the present position of the Society, but I do not think it advisable to discuss the matter in detail, before the members of the Royal Institute have had a further opportunity of considering the proposals for the Supplemental Charter and the necessary amendments of the By-laws.

In the meantime I will refer in general terms to the situation, and touch upon the points and principal reasons why in my opinion the arrangements come to between the representatives of this Society and the Royal Institute should be fully consummated. My remarks will be addressed more particularly to the younger members of the profession, for it is they who will ultimately reap the benefit of Legislation on the lines proposed. Under the most favourable conditions it will in my opinion take something like five years to get a Bill through Parliament.

The general principles of the Bill as drafted are those already laid down in the Society's Bill, and make provision for the recognition of all vested interests (which would in any case be insisted upon by Parliament). Consequently all persons who can prove that they are *bona-fide* practising architects at the time that the Bill becomes law, will be entitled to continue that practice during their lifetime.

The first effect therefore of a Registration Bill will be to prevent any further addition of the unqualified to the ranks of those already practicing, and the latter will by the natural process of elimination gradually die out, and this will necessarily be a matter of time.

The second effect will be that none but those who have been properly educated and who possess the necessary qualifications and are able to prove them, will be admitted to practice, and as this is a matter which will effect the younger generation of architects it is obviously chiefly a question for them.

It is therefore pertinent to enquire whether they desire Registration by Act of Parliament. A plebiscite instituted by this Society and by *The Builder* have proved that eight out of nine members of the architectural profession desire Registration, and it is fair to assume that very few young men voted with the minority, and that of these there were none who had spent years of arduous study and preparation for passing qualifying examinations; for these, speaking generally, are the chief sufferers under the present system, or rather want of system. There are many young men on whose education and architectural training considerable sums have been spent, and who possess every qualification to practice architecture; who are obliged to remain in the position of assistants at about the average wage of a bricklayer, or who are even unable to obtain regular employment, simply because the profession is overcrowded and there is consequently keenness of competition, so that the remuneration of the competent is kept down by the competition of the incompetent.

You may further have observed that the more incompetent a young man may be, the more likely he is to commence practice for himself at the earliest possible moment.

If he has been found worthless by his principal during the period of his apprenticeship, the result is that he is advised to try a change immediately the time expires, and if other architects find him equally incompetent as a Junior Assistant, his only course is to open an office of his own. It then frequently happens that some indiscriminating member of the general public (who has no conception of the duties of an architect) actuated by a desire to do the young fellow a good turn, or more probably because he hopes to get his work done for a small fee, gives him some small commission, and generally speaking, the completed work is so unsatisfactory that the Client resolves never again to trust a young architect, and his reasons are made known very freely to his friends and neighbours. The competent therefore suffer with the incompetent, and the small commission which the qualified young architect would like to have an opportunity of carrying out, and which he could do in a manner calculated to secure further and more important commissions, is withheld, and probably given to a Builder's clerk or foreman, who although he may not have any knowledge of art or even draughtsmanship will generally give his client what he expects at a reasonable price. It sometimes happens however that these incompetent young men have wealthy connections, or it may even be that their incompetence is the direct result of the knowledge of the fact that they will not be entirely dependent on their work for a livelihood, which knowledge makes them careless and negligent in their student days. I know instances where such young men, having been given good opportunities, have, with the aid of "ghosts" whose services they could afford to pay for, further assisted by good Builders whose general foreman has been subsidized, turned out creditable work which has earned for them fair reputations, and they are now able to employ qualified assistants who are practically responsible for every detail of the practice, except when it becomes necessary to exhibit a figure-head, and they will no doubt continue on these lines for years, securing remuneration which rightly belongs to better men. I have two such cases in my mind at the present moment.

The presence of such persons in the acknowledged ranks of the profession is a grave injustice to the earnest and thoughtful young architect who has devoted much time in acquiring a thorough knowledge of every branch of his profession.

There are probably some thousands of young men in the United Kingdom serving their Articles at the present time not an eighth of whom will ever attempt to pass any qualifying examination, and of whom a large proportion will go to swell the ranks of the incompetent, and thus depreciate to a great extent the general standard of ability, and discredit the profession generally in the eyes of the public.

A preliminary entrance Examination would reduce this number by at least one half, while another fourth would be eliminated by an intermediate Examination, and I am confident that every young man who has, after years of study, proved his efficiency by successfully passing a stiff qualifying examination must feel that the time has arrived when his competitors must be compelled to submit themselves to a similar test before being allowed to practice.

My personal observations and experience have shown me that the overcrowding of the profession and the unfair competition to which qualified men are forced to submit is the direct result of the large influx of incapable and incompetent persons into the ranks of the profession through the ordinary portals of pupilage, rather than the presence of those other undesirables who combine the practice of architecture with some other callings. If they are dependent on architecture for their livelihood and are without means or influence, their only chance of securing even that class of work which does not call for either great skill or artistic merit, is to offer inducements by way of reduced fees, by this means obtain employment, and frequently to compensate themselves for this they will further stoop to the acceptance of illicit commissions.

To sum up, I would point out that it is the fully qualified young men commencing practice who have to bear the brunt of unfair competition, therefore it is obvious for reasons already stated, that it is presumably the young men who will specially desire to support the Registration policy which if successfully carried through will check such competition, and at the same time raise the status and general standard of practice in the profession.

This will be effected by the institution of examinations so graded as to first of all test a candidate's general knowledge and aptitude for acquiring professional qualifications, followed by a further examination, by which means the unfit would be eliminated, leaving only the capable, to hope that by the exercise of their talents, combined with strenuous and persistent study they may pass the final test and thus qualify themselves for practice. Such examinations will not merely shut out the incapable in the early stages of their attempts in finding a career, but the knowledge that such examinations have to be passed would have the further effect of compelling the idle and careless but talented young men to dilligently apply themselves in their early days to the task of making themselves proficient, and would encourage all those qualities at that time in their lives which would tend to the ultimate benefit of themselves and their clients.

Assuming therefore that the young men are convinced that the Registration Policy is a really practical attempt to solve their difficulties, and that its success is extremely desirable, I venture to point out that the only possible chance of carrying it through will be by earnestly supporting the combined Registration Sub-Committee and approving the Agreement to be entered into between the Society and the Royal Institute.

Let us consider the situation. For more than a quarter of a century we have been actively and strenuously advocating a Registration Bill, but the only practical though very important result has been that the profession generally has been educated to appreciate the benefits of such a policy. During all this period we have persistently stated that the Royal Institute ought to take up the question, they have now done so, and those Members of the Royal Academy of Arts who are also members of the Royal Institute, have, it is understood intimated that although they are not prepared to actively support the Registration Bill they will not oppose it, therefore one might imagine that all opposition had been done away with, and that its success is assured. Such is not the case, as a real difficulty occurs with regard to the composition of the Administrative and Registering Authority under the Bill. We contend that such a General Council should be composed of representatives nominated in varying proportions by the Royal Institute, The Society of Architects, The Royal Academy and the Irish Institute, together with others elected directly by and from the general body of practising architects.

My personal opinion is that this would be the better plan, but the Royal Institute Council, for reasons I thoroughly appreciate, could not agree to this, and had the Society's Bill (which we had just revised and brought up-to-date) been presented, the Royal Institute would have strenuously opposed it. On the other hand it was provided in their suggestions for a Bill, that the Council of the Royal Institute was to have full control with regard to administration and Registration under the Act, and it is obvious that so long as The Society of Architects remain an independent body we should be compelled to oppose such a measure in Parliament, with the inevitable result, for we must thoroughly understand that in the present congested state of Parliamentary business only unopposed measures have any chance of reaching a second reading.

It is recognized by both parties that the opposition of either would suffice to kill a Bill, therefore, the only solution of the difficulty is the fusion of the Society with the Royal Institute. The question is therefore, Is Registration worth the sacrifice? If we are satisfied that Registration is absolutely essential, then both sides must sacrifice something, and in the proposed Agreement between the Councils of the Royal Institute and of the Society, the extent of those sacrifices has been closely defined and the limit of concessions has been reached by both parties. The result represents the maximum of what either party is prepared to concede and the minimum of what either will accept.

I feel confident therefore that if the present suggested arrangement is for any reason blocked, or if it is allowed to fall through, the labour of many years will have been wasted, and a very considerable time must elapse before either party will be prepared to initiate a new scheme of unity, and it is quite certain that neither the Royal Institute nor The Society of Architects will be able to carry a Registration Bill through, except by mutual agreement.

I am sure that in a profession which demands of its *bona-fide* followers such wide and varied gifts, and in which all, who hope to attain to some degree of excellence, carefully train themselves in habits of clear and consistent thinking, foresight and self-reliance, no more need be said to commend to them the decision arrived at, after long and earnest deliberations, by those who were specially delegated to enquire into and report as to the best solution of the problem with which they had to deal.

But there is another point to which little reference has been made, and one to which all our leaders attach even greater importance than to that of Registration, viz., that the consummation of the suggested arrangements will be the first real step in the process of attaining complete unity in the profession. The well-being of a great profession cannot be considered merely as a question of to-day, or to-morrow, or even ten years hence; there is a long future before it, and it is with this thought ever in our minds, that legislation is proposed. Looking ahead your leaders see a vista of long years of useful work, progress and development, under the banner of one great Institution, including within its ranks all *bona-fide* architects in the United Kingdom, strong enough to legislate within itself for the ultimate benefit of its members, and with sufficient power to compel their obedience to its moral edicts and code of professional honour, and by these means be able to enforce its reasonable regulations upon those outside, with regard to competition conditions and other matters affecting the honour and interests of the profession. Your present leaders are but laying the foundations upon which their successors (that is to say the more able, earnest and thoughtful of the young men of to-day) will raise and maintain the superstructure.

Is the attainment of such an ideal worth a little present self-sacrifice? I simply ask the question, hoping it will be well considered by all before a definite opinion is expressed.

The Principles to serve as the basis of a Bill regarding the Legal Protection of the Architectural Profession.

By Architect Baumann.*

(1) The art of the builder has ever been considered as of the highest importance for the development of a people. The progress of technical knowledge, as well as the great variety of buildings required for the needs of life, have in the present day been so extended, that it is in the public interest that this art should be exercised only by persons who, after special study and teaching, have given proof of artistic ability to fulfil the requirements.

(2) The art of building is, therefore, the special calling of the architect, for architects exclusively ought to be permitted to exercise this calling, and they only should be authorized to assume the name of architect.

(3) Architects form an independent automatous body. Therefore the exercise, at the same time, of a public office (except that of professor) is not compatible with the calling of an architect. His holding of any public office closes the way for the private practise of his profession.

(4) The profession of architect should be practised only by those who, having received a school education, can show that they have passed special examinations. The legislature of every country should be bound to fix the nature of the school education, the nature and duration of the test of practical ability and the subjects for examination.

It should also be fixed by law that the practical test must be under the supervision of an architect.

(5) A candidate who can show that he has fulfilled all the above conditions, has a right to exercise the profession of architect.

It is understood that he must give proofs of his nationality, his place of abode, his possession of civil rights, and that his character is blameless in the eye of the law ; it is the duty of the professional authorities to satisfy themselves as to the trustworthiness of the candidate, and in the case of serious prevarications to exclude him entirely, or for a limited period, from the exercise of his profession.

(6) The architect alone must prepare all the necessary plans and drawings, provide everything requisite for the erection of a building, and direct and control the work when in progress.

Exceptions to this rule :—

(*a*) If the building requires only one branch of the building trade, then the builder may design the whole, provided it falls within his sphere.

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* Read at the Architects' Congress, Rome.

(*b*) Plans and drawings for unimportant buildings of small cost may be prepared and executed by the builder. The sum to be expended must be fixed according to the laws of the country.

(*c*) The state, the province and the commune, according to their own statutes, may cause to be erected (plan, direct and control) buildings of normal type, or of little artistic importance, by their own qualified employés, but in the case of great public edifices, monuments, or smaller buildings of artistic importance, the state, province, or commune should have the right only to suggest the main idea, but the definite plan and the technical and artistic carrying out must be exclusively the work of the architect.

(7) The architect should be obliged to affix his signature to all works planned and executed by him. Those plans only which are signed by an architect may serve as the basis of official action, and as the design of the work itself.

(8) The architect should be responsible not only for the plans, drawings and calculations made by himself, but also for those by other architects of which he may avail himself. For the working out of the plan, for the manual labour as well as for the quality of the building materials, the builder is in the first place responsible.

The architect is only accountable if he has made agreements with the builder or others detrimental to the interests of his employer.

(9) The architect must look for compensation directly to his employer. He has no right to accept any indemnity from any other person interested in the work.

The amount of the honorarium as well as the mode of payment must be previously arranged by agreement between the employer and the architect. The tariff must form the basis of the calculation of the honorarium.

Every country must fix a tariff in its own sphere of action. Usually the tariff fixes the minimum, and no agreement is valid by which the architect actually receives less than the sum due according to the tariff.

(10) An architect must under no circumstances, even for himself, privately carry out works which ought to be done by a builder.

(11) Architects form a professional class within itself, having its own duties and obligations circumscribed by law and possessing its own laws and representation.

(12) Every architect in a state must belong to the Chamber of Architects in that state.

The number composing each chamber and the mode of its formation must be determined by law. Every architect should belong to a chamber, otherwise he is not an architect, nor can he bear the name nor exercise the profession of an architect.

An aspirant who has fulfilled the before-mentioned conditions must be received as a member of the Chamber of Architects in that district where he resides, and he remains a member of that chamber until he leaves that district, renounces his profession, loses the necessary qualifications, or is excluded from the chamber.

(13) The Chamber is composed :—

(*a*) of architects living in the district.

(*b*) of candidates studying under an architect residing in the district.

(*c*) of those who, without having received the necessary instruction have given proofs of ability, and who have therefore through recommendation by the Chamber of Architects been legally authorized to assume the name of architect.

(14) Besides the functions usually exercised by the Chamber of Architects which must be determined by law, the chamber must also take cognisance :

(*a*) of all questions concerning the duties of architects in organisation of educational institutions (technical high schools, academies of art architecture, etc.).

(*b*) of its own exclusive right to fix the rules binding on all members of the chamber, by which all architectural competitions are regulated.

(*c*) of the consideration of all parliamentary bills that concern architecture, which the government should be obliged to submit to the chamber.

(*d*) of the legal guarantee that the chamber should be represented in every recognized body connected with public utility founded by the state (boards of railway directors, industrial councils, building societies, civic deputations, etc.), as also in committees for the decision of architectural questions (regulations of cities with regard to their historic and provincial characteristics).

(15) The Chamber of Architects has administrative and disciplinary tasks to fulfil ; the first are performed by a committee, the second by a specially appointed council to whose judgment are submitted all offences against duty or the dignity of the profession.

It bases its decisions on a regular judicial procedure determined by law.

(16) Every member of the chamber must pay a fixed sum of money.

The amount of these payments is to cover the expenses of the chamber, and also any outlay connected with social functions, or the representation of the profession.

Registration.

The Position in South Africa.

Mr. E. H. Waugh, the Society's Local Hon. Secretary in Johannesburg, writing to *The African Architect*, points out that the proposed Union Architects' Bill (see Vol. IV. Journal, page 426), while it follows the lines of the present Transvaal Act, goes much further as now amended, and seeks to give the governing body control not merely on professional matters relating to the ethics of practice, but also on such questions as come within the description of " architectural politics."

Mr. Waugh strongly deprecates this course of action, and urges that the scope of the new Association should be confined to such matters as education, research, qualification, registration, and malpractices, and that architects should retain their present freedom of individual action in other matters.

The Cape Institute, says the *South African Architect*, are now considering the final amendments suggested by the Council of the Transvaal Association of Architects, which, when approved or otherwise by them, the whole matter will be placed before the members of the Association for their final approval before presenting same to Parliament. We understand the chief difficulty of a Union Bill has been that there must be a Union head, and of necessity such a question must introduce a little friction. This it is hoped will be obviated by adopting the principle of federation rather than Union, and empowering each Province with local powers to deal with all matters of a local nature, and only where absolutely impossible to deal with matters locally, to make such matter a Union question.

New South Wales.

The very important measure for the registration of architects in New South Wales has been at last introduced. Unhappily, however, says *Building*, it claims no party or individual endorsement. The Acting Chief Secretary presented it to the official notice of Parliament merely as " a matter of courtesy," as he explained. He furthermore said that architects did not stand in the same relation of importance to the community as doctors. We join issue with him on this point. As a matter of fact, it is the architect's knowledge of the various standard laws of health, embodying ventilation and sanitation, that obviate, in the first place, the disease which necessitates the doctor.

An Opinion from the Provinces.

The remarks of Mr. Sydney D. Kitson, M.A., F.R.I.B.A., President of the Leeds and Yorkshire S.A., are of special interest as coming from one who is confessedly a convert. I own, he says, that in my early days I was opposed to Registration ; but experience has taught me to be a thoroughgoing advocate of that policy. It is unnecessary at this time of day, when every trade and profession has formed itself into a trades union, to point out the advantages which would accrue to our profession by a closer union and a sterner discipline. It ought to be impossible for an employer to bargain for a less remuneration than the modest minimum prescribed by the Institute, or for an architect to agree to such an arrangement. It ought to be impossible that architectural work should be done—and ill done at that—by builders, plumbers, rent-collectors, and undertakers. The Institute is moving slowly but surely towards this achievement. The policy was ably advocated more years ago than, probably, he cares to remember by one of our ex-Presidents, Mr. J. W. Connon, and it has been endorsed, I think, by everyone else who has occupied this Chair. The amalgamation of The Society of Architects with the Institute seems likely to be accomplished in the near future. This statesmanlike arrangement has meant self-sacrifice and the exercise of much tact and common-sense on both sides. The fact that such qualities have been so fully shown in these negotiations is a guarantee for the successful termination of the campaign for the statutory recognition of architects. The reason why in the past men have held aloof from the movement is that they felt that it would mean the embracing of all—good, bad, and indifferent—who professed architecture. It has come clearly to be realized that statutory recognition is necessary because, among other things, of the increasing and intolerable burdens which recent legal decisions, with almost impish ingenuity, continue to pile up upon the poor architect. It is realized that it means the inclusion, for the time being, of some who, under the more stringent tests of the future, would not find a place. But it will be the part of architectural education which has made such rapid strides in late years, to raise the standard and to weed out the unfit. And so, in time, though we may not live to see it, architecture will take her place beside medicine as a well-organized and disciplined profession, doing a work hardly less important than that of medicine for the benefit of the community.

The British School at Rome.

Higher Education in Art.

Architects will be interested in the *Times* report of Lord Esher's scheme for incorporating the British School at Rome in a larger institution, with a view to providing a worthy home for the study of the Arts, Archæology and Letters in Rome.

In the early part of this year the Royal Commissioners for the Exhibition of 1851 resolved to establish a system of travelling scholarships in Architecture, Sculpture and Decorative Painting on lines somewhat similar to those of the French Prix de Rome, and they were advised to make the scholarships tenable in Rome. They accordingly approached the Archæological Institution, known as the British School at Rome, and arrangements were about to be made with that body for providing facilities for the Commissioners' scholars during their residence in Rome, when an opportunity occurred of securing the British Pavilion, erected from the design of Mr. Lutyens for the International Exhibition of Rome. Thereupon the Commissioners, with the co-operation of the British School at Rome, approached various bodies interested in Art, with a view to enlisting their support in the scheme, and, being met with favourable replies, proceeded to the work of drawing up a draft Constitution for the new British School.

The Commissioners propose to award three scholarships annually, one in Architecture, one in Sculpture, and one in Decorative Painting, and as the scholarships will ordinarily be tenable from two to three years, there will be from six to nine scholars of the Commission always in residence. The School will, however, have accommodation for students holding similar scholarships, as well as for students of Art and Archæology pursuing their researches in and about Rome.

A hostel is proposed as part of the scheme, in view of the fact that living in Rome has of recent years become more expensive for young students working alone. The living accommodation at the hostel will be necessarily limited, but it is anticipated that the studio, library, and other working accommodation of the building will be sufficient for as many students of Art and Archæology as may be expected to make use of it.

The first Director of the new School will be Dr. Thomas Ashby, the Director of the present British School at Rome, and Mrs. Arthur Strong will, it is hoped, continue to give her valuable services to the School as Assistant-Director under the Faculty of Archæology. It is proposed to enlist the services of eminent artists who may be able to pay occasional visits to the School in order to assist and advise the Art Students as occasion arises. The scheme, which precasts the probable organization of the School and the duties of the Executive Committee and of the Faculties of Arts and Archæology, is still under consideration by the authorities concerned.

The *Times*, in a leading article, says: "Two or three years in Rome, under good direction and amid associates engaged in the same labours, will be of immense advantage to sculptors, decorative painters, and architects. More especially will our architects derive benefit from this boon, long hoped for and long delayed. It is not too much to say that, though we have a certain number of architects who know the history of the mother of all the arts, and have mastered its principles—handed down through a succession of great men—the rank and file are less educated in this respect than their fellow-students of painting, and much less educated than the architects of Paris and Berlin. What the French architects owe to the training and tradition of the Villa Medici, and the Germans to their own Institute in the neighbourhood of Rome, is incalculable. A generation hence we may fairly hope that the same will be said of the stimulus given to our own architecture by the enlarged and re-organized British School at Rome."

Reviews.

Deutsche Kunst und Dekoration. V. A. Koch, Darmstadt. Copies obtainable at Mudie's Library, New Oxford Street, W.C. Price 2*s.* 6*d.*

The principal interest in this well illustrated quarto volume, with its highly decorated paper cover and heavily outlined letterpress, lies in the fact that all the best of the architectural examples which are cited are in flattering imitation of modern English domestic work, or else are the designs of English architects. Here and there a certain German flavouring adds additional savour, especially in the productions of Herr Muthesius and Prof. von Seidl, whose "Landhaus Pappeiner in Murnan" is particularly original and even picturesque, though it would have been more satisfactory, even from this standpoint, if the columns of the first floor balcony had themselves been given some ostensible means of support.

Reinforced Concrete Construction. Elementary Course. With examples worked out in detail for all types of Beams, Floors and Columns. By M. T. Cantell. 65 Illustrations. London: E. & F. N. Spon, 1911. Cloth 8vo., pp. 136. Price 4*s.* 6*d.* net.

The book opens with a description and illustrations of the wooden forms built up to hold the concrete in position while it is setting. It goes on to describe the mixing and laying of concrete, and then gives bending moment and shear diagrams for various methods of loading and supporting. The bulk of the work is taken up with a large number of examples showing the formulæ to use and the method of calculating the stresses. A good collection of sixty-three formulæ is given at the end, followed by a table of squares, cubes, square roots and cube roots. It is just the book for a student as all the matter is plainly stated. Of the oversights in the book, no provision appears to be made for filling the pillar forms otherwise than from the top so that the lateral reinforcement would be easily displaced. In the bending moment diagrams the parabolas are not very clearly drawn, with a cantilever carrying a distributed load the vertex should be at the free end but it appears to be shown at the fixed end. The additional load on a central column over what it has apparently to carry, due to the reinforced concrete beam being continuous is not stated; the division of the uniformly distributed load on the beam being really $\frac{3}{16}$, $\frac{5}{8}$ and $\frac{3}{16}$ instead of $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{1}{4}$ as it would naturally appear to be. At p. 114 in the second formula from bottom for A read Ac. At p. 116, second line from top the last quantity in brackets should be squared.

Stresses and Thrusts. A Text-book for Students. By G. A. T. Middleton. Fourth Edition, Revised and Enlarged. Illustrated with 170 Diagrams. London: B. T. Batsford, 1911. Price, 4*s.* 6*d.* net.

In this edition, Chapters VII. and IX. have been to a great extent re-written and Chapter XIV. is entirely new. This Chapter is a valuable addition consisting of a design for a steel roof with stress diagrams and full calculations. The method of calculating a steel joist used as a stanchion has been added to Chapter VIII. The book is a great improvement over the earlier editions, but there are still a few points to which exception may be taken. At p. 11, it is stated that the allowance for the distribution of pressure from a point in the brickwork varies with the bond employed. This is not correct as the universal practice is to include the material situated within an angle of 60 degrees as shown by the author, irrespective of the bond. At p. 12, the fulcrum of a cantilever is shown at the face of the wall, whereas, it should be some few inches in from the face, otherwise the pressure would be infinite. At p. 63, the clear span is taken in the calculations for a plate girder instead of the effective span which is centre to centre of the bearing surfaces. At p. 65, the greatest stress is stated to be at the centre of the span and equal to 202·55 tons, but as there is a concentrated load out of the centre in addition to the distributed load the maximum stress will occur at 2 ft. 0$\frac{3}{4}$ in. from the centre, and will equal 203·73 tons. The angles are made 4$\frac{1}{2}$ in. by 6$\frac{1}{2}$ in. by $\frac{5}{8}$ in., which is unusually large. Although the angles are $\frac{5}{8}$ in. thick, the rivet holes are deducted ½ in. thick. At p. 66, it is stated that the lengths of the plates need only be just sufficient to include the diagram, whereas to be safe it is necessary to allow half-cover plate length beyond the diagram. Some girders designed by an architect for a large railway goods station failed under test from this cause. At p. 143, line 10 from the bottom, for portions read purlins, and the allowance of 25 lbs. per square foot horizontally, giving 12 lbs. per square foot normal, is not sufficient for wind pressure. By the L.C.C. General Powers Act, 1909, 28 lbs. per square foot of sloping surface must be allowed for superimposed load for roofs inclined at a greater angle than 20 degrees and 56 lbs. per square foot measured horizontally for all other roofs. In the design of a factory chimney it is said (p. 158), that a projecting cornice could not be indulged in, from its tendency to interrupt, if not destroy, proper draught. As the draught is a function of the height of chimney and temperature of the gases it is difficult to see how it can be affected by an external cornice. The subject of retaining walls is very scantily treated and very little practical information is given. The statement under the head of arches, that an average stone will bear 400 tons per square foot, is rather apt to mislead designers; even assuming this to be the ultimate crushing strength not more than one-twentieth should be allowed for a working stress. With the reservations above named there is undoubtedly a mass of useful information in the book, well worthy of the attention of young architects, and a careful study of the various chapters, combined with the working out of the illustrations to scale, will put them well in the way of understanding the stresses and thrusts that occur in various structures.

The Practical Design of Reinforced Concrete Beams and Columns. By W. Noble Twelvetrees. With Labour-saving Diagrams and numerous Illustrations. London: Whittaker & Co., 1911. Cloth 8vo., pp. 167. Price, 6*s.* net.

This is an admirable work for concrete specialists. The author has been identified with reinforced concrete construction from its first inception, and the present book is a summary of his experience applied to ordinary buildings. The Chapters on stress are very clearly worked out, with numerous examples. Those on double reinforcement and shear reinforcement are particularly good and more complete than is generally found elsewhere. Many labour-saving diagrams are given, and these are explained in a simple manner that enables them to be used without the necessity of a long preliminary study. After dealing with all varieties of detail separately, a complete floor is taken and the various calculations shown in regular order. A Chapter follows upon the permissible working stresses according to the composition of the concrete; and finally, one upon materials and construction, including the preparation and removal of the moulds or centering. An interesting appendix shows the comparison of various formulæ for reinforced concrete beams reduced to the standard notation from which it is seen that there is a remarkable uniformity that one does not suspect in their original form. We congratulate the author upon the result of his labours.

The Society of Architects' Travelling Studentship.

Regulations and Conditions, 1912.

Candidates for the Travelling Studentship shall be persons whose names are on the Register of Students of the Society, and who have paid their subscriptions for the current year. (The maximum age limit is 28 years.)

The Competition Drawings, upon which the Studentship will be determined, must be delivered, carriage paid, at the Society's Offices, 28, Bedford Square, London, W.C., not later than 6 p.m. on the first day of May, 1912, without name, motto, or mark of identification, and must have attached to one of the drawings a plain sealed envelope containing the competitor's signature and address appended to a declaration that the drawings are the candidate's unaided work.

The plans will be numbered as received, and a corresponding number will be placed on the envelope, which will not be opened until after the award has been made.

The Council will not be responsible for any loss or damage that may occur to any drawing or document submitted in connection with this competition, though every reasonable care will be taken of the same.

The Studentship is of the value of Twenty-five Pounds (£25), and carries with it the Silver Medal of the Society. The holder will be required to undertake, between June 1st and October 1st, a sketching tour of not less than three weeks' duration.

The successful candidate must, within fourteen days after the award, notify the Secretary of the date of the commencement of the tour and its proposed locality, and will then receive the sum of Fifteen Pounds (£15).

A diary of the tour must be submitted with the measured drawings, sketches and notes, all of which must reach the Secretary before October 1st.

Subject to the Council being satisfied with the work executed during the tour, a further payment of Ten Pounds (£10) will be made, and the Silver Medal presented to the candidate at the first Ordinary Meeting of the Session, or some other date to be fixed by the Council.

The Council reserve the right of exhibiting or reproducing the drawings, and their decision on any matter arising is to be final.

The Studentship may only be held once by the same person.

A candidate who does not adhere to the conditions and instructions in every particular, will be disqualified.

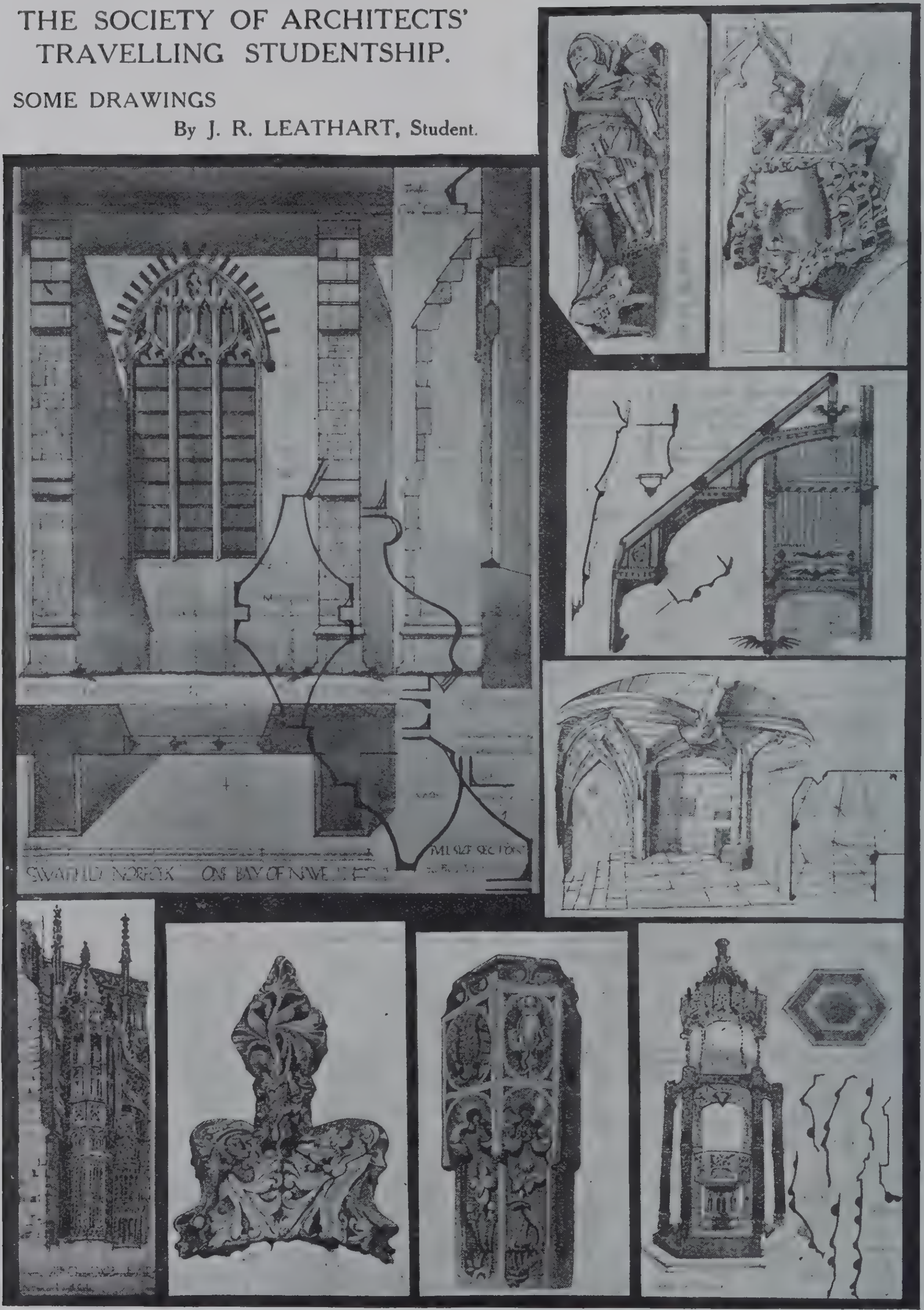
Subject for 1912. A Town Hall.

A Town Hall to cost (exclusively of furniture and decorative fittings) not more than £30,000, the price per cubic foot allowed being one shilling and sixpence, the method adopted of arriving at the cubical contents and estimated cost, must be shown on one of the drawings.

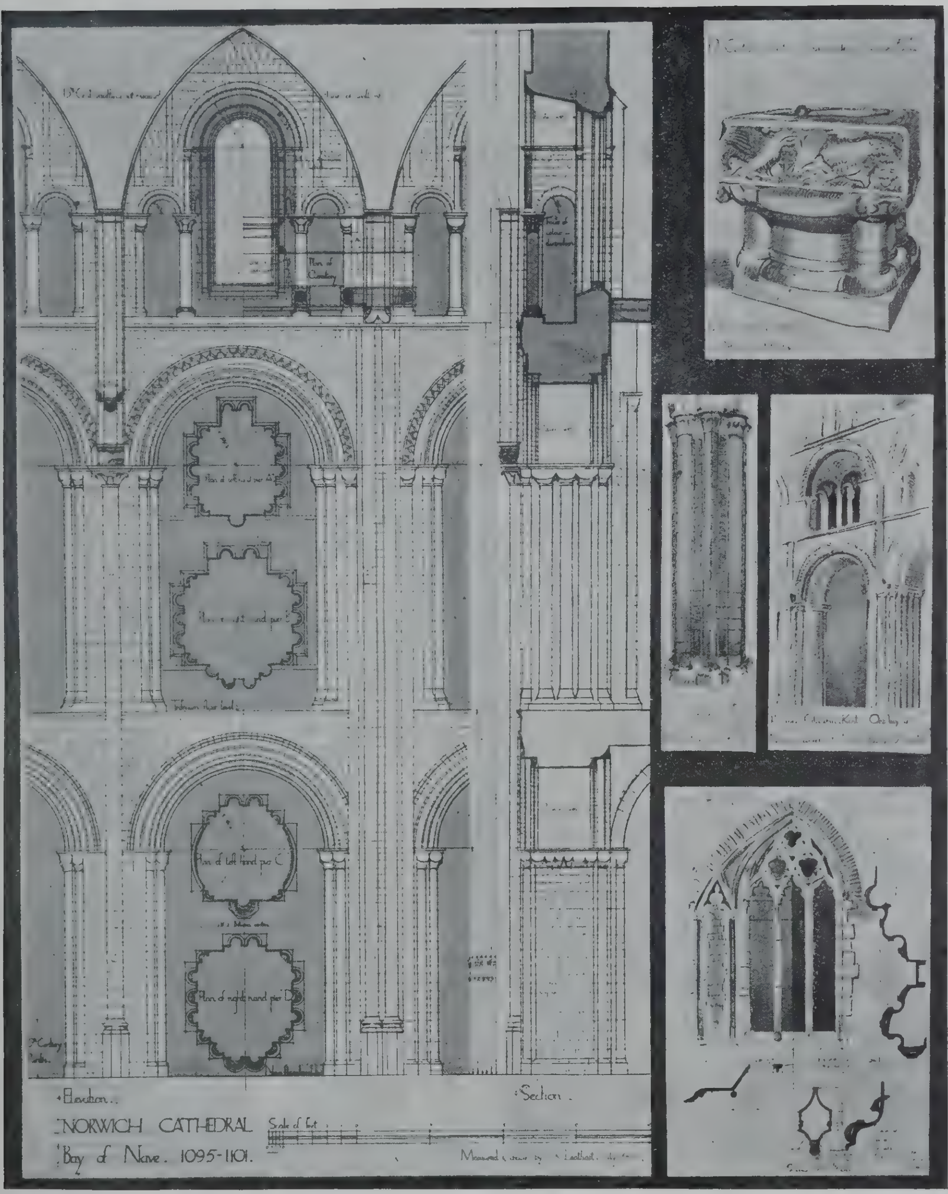
THE SOCIETY OF ARCHITECTS' TRAVELLING STUDENTSHIP.

SOME DRAWINGS

By J. R. LEATHART, Student.



MEASURED AND DRAWN BY J. R. LEATHART.



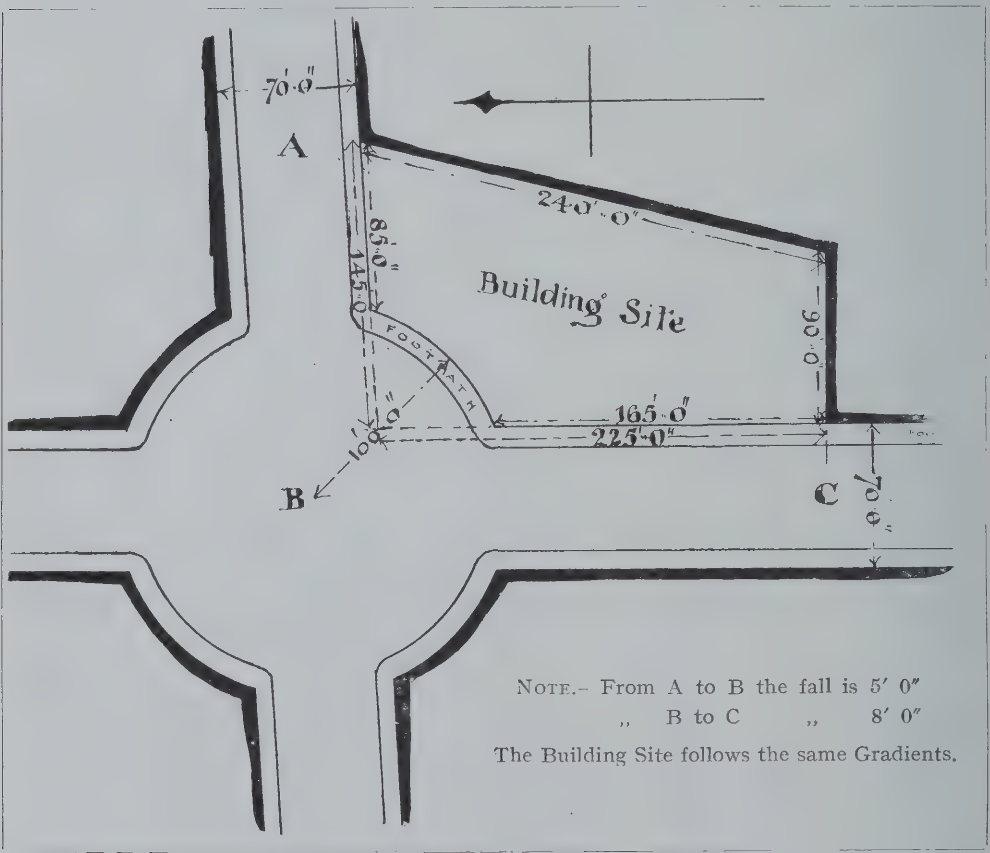
MEASURED AND DRAWN BY J. R. LEATHART.

Site.

The actual buildings need not be brought close up to the footpath boundary, on the other hand there must be no projection beyond it. Architectural features must not overhang the footpath. The style and material are left to competitors.

There are no rights of light or other easements to be considered.

The roads are sewered, and gas and water mains and electric cables are laid therein.



NOTE.– From A to B the fall is 5′ 0″
,, B to C ,, 8′ 0″
The Building Site follows the same Gradients.

Accommodation.

MAYOR AND PUBLIC.—Council chamber, committees' rooms, Town Hall with gallery and platform, artistes' retiring rooms, cloak rooms and lavatories, Mayor's parlour, hallkeeper's office, telephone box, kitchen and domestic offices.

TOWN CLERK'S DEPARTMENT.—Private and general offices, strong room, cloak rooms and lavatories.

SURVEYOR'S DEPARTMENT. Private and general office, (drawing) plan room, strong room, cloak room and lavatories.

PUBLIC HEALTH DEPARTMENT.—Accommodation for medical officer of health, inspectors and staff's cloak room and lavatories, strong room.

CARETAKER.—(Roof) sitting and two bedrooms, kitchen and offices, bath, lavatory, etc. (Basement) stores, heating, engine room, coals, etc.

The above accommodation is the minimum, and anything further may be included at the option of the candidate.

Notice to Competitors.

In adjudicating, special attention will be paid to the amount and suitability of accommodation provided, the limit of cost, grouping of offices and intercommunication of departments, adequate entrances, exit, corridors and lobbies, suitability of design, material and construction, natural lighting, and provision for heating, ventilating and sanitation, compliance with by-laws, means of escape from fire, draughtsmanship and general finish of the drawings.

Drawings required.

Block plan, drawn to a scale of 16 ft. to the inch, showing :—

(*a*) The position of the buildings ; (*b*) drains, with their falls and depth below ground ; (*c*) entrances ; (*d*) boundary walls or fences and their nature ; (*e*) the points of the compass.

A complete set of working drawings to $\frac{1}{8}$ in. scale, such as would be required by a contractor to carry out the work, comprising plans of each floor internal fittings to be shown, and drainage and heating. Elevations of each front and at least three sections, two cross and one longitudinal, and at least one sheet of details including a half-inch detail of part of the main front. Perspective sketch optional.

The drawings must be executed on white paper, imperial size, and mounted on strainers.

Architectural Scholarship, 1912.

The Scholarship is awarded for Measured Drawings, and Competition is confined to Students of the Society, who are under 23 years of age on the latest day fixed for the delivery of the drawings, viz., September 30th.

Conditions and Subject.

Candidates for the Architectural Scholarship shall be persons whose names are on the Register of Students of the Society, and who have paid their subscription for the current year. The maximum age limit is 23 years on September 30th, 1912.

Candidates are required to submit at least three and not more than four sheets of Measured Drawings and Details, of some building of historic interest.

The Drawings are to be prepared between January and September, 1912, and are to be executed on imperial size paper, and delivered carriage paid at the Society's Offices, 28, Bedford Square, London, W.C., on or before September 30th, 1912, together with the original sketches and notes.

The Drawings must be without name, motto, or other mark of identification, and must have attached thereto a plain sealed envelope containing the Competitor's signature and address appended to a declaration that the Drawings, etc., are the candidate's unaided work.

The Drawings need not be mounted, but they must be delivered flat and not rolled.

The Scholarship is of the value of £10, and will be disbursed by the Council on behalf of the holder.

The award will be made by the Council subject to their approval of the manner in which the Candidate proposes to utilize the Scholarship, or alternatively to the Candidate agreeing to such scheme as the Council may decide upon.

Should the scheme not call for the payment of so much as Ten Pounds (£10) the holder may receive the value of the balance in books or instruments.

The successful Candidate may be required, before the award is confirmed, to produce to the Council evidence as to age.

The Drawings will be numbered as received, and a corresponding number placed on the envelope, which will not be opened until after the award has been made.

The Council will not be responsible for any loss or damage that may occur to any drawing or document, though every reasonable care will be taken.

The Council reserve the right to exhibit or reproduce the drawings, and their decision on any matter arising, is to be final.

The Scholarship may only be held once by the same person.

A candidate who does not adhere to the conditions in every particular, will be disqualified.

The Society of Architects, South African Branch.

FIFTH ANNUAL GENERAL MEETING.

The Fifth Annual General Meeting of Members, Hon. Members and Students of The Society of Architects, South African Branch, was held in the Board Room, Trust Buildings, Fox Street, Johannesburg, at 5 p.m., on Friday, the 20th of October, 1911.

Mr. G. S. Burt Andrews the retiring President in submitting his Report for the year just closed, said that at the end of last year they had thirty-four Members, seven Students and two Honorary Members. The number of Members had increased to thirty-six, the number in the other classes remaining the same. Four applications for Membership had been received, but, owing to the negotiations for amalgamation at Home, these could not be finally dealt with. The Council had under consideration the proposed Registration Bill for Architects within the South African Union. This important matter had been discussed at two meetings, but up to the present no definite understanding had been come to. The Society's Branch was prepared to give substantial financial assistance, and would, in addition, strongly recommend the Home Council to do likewise, provided the provisions of the Bill were acceptable to the Local Branch.

There was no doubt whatever that their members would do everything possible to ensure the success of the proposed Bill, because it was felt that Registration was a real necessity, not only in South Africa, but in all parts of the British Empire. In December last, Messrs. Howden, Beardwood, and Waugh, represented their Branch of the Society at an informal conference held by the Cape Institute of Architects in Capetown, when the draft proposals for the Union Act were discussed. The thanks of the Branch were due to these gentlemen for the good work they had done.

The proposed amalgamation of the parent Society with the Royal Institute of British Architects had received very earnest attention by the Council. The first intimation that such an important step was being taken came to the local members through the medium of the Society's Journal. A meeting of the Council was therefore called to discuss the proposal, but, as the information at their disposal was insufficient to enable them to fully appreciate the position it was decided to cable to headquarters for full particulars, and suggesting that time should be given for consideration by Colonial Members before anything final was decided. This was followed up by a letter, in which the views of the Council were put forward. Replies were in due course received from the Secretary explaining the whole position. It was hoped that the prompt action of the Branch Council would cause both the Society and the Royal Institute to give all possible consideration to their Colonial Members. It was understood that the negotiations had been somewhat delayed, owing to difficulties in connection with the R.I.B.A. Charter. The proposed amalgamation had naturally prevented much progress being made by the South African Branch, and applications for Membership were being delayed. During the year, six Meetings of the Council had been held, at which there had always been a good attendance. An Examination in a Sectional subject was held in Johannesburg for Membership in December, 1910. It had been decided to hold a Soirée and an Exhibition of Drawings in the School of Mines and Technology, on Saturday, the 28th October, and it was hoped that the Members would make the function as interesting and enjoyable as the one held some years ago.

In connection with the expenses of the Transvaal Registration Bill, there was an amount of £12 still owing by the Transvaal Institute of Architects, but it was understood that this would soon be settled. The draft rule passed at the last Annual General Meeting, "That the retiring President shall be *ex-officio* Member of the Council for one year succeeding the date of his retirement from Presidentship" had been approved by the Council of the Society; consequently, Mr. R. Howden had remained a Member of the Local Council during the past year. The Society had again resumed full work in every way. In conclusion, he referred to the excellent work done by Mr. Waugh (the Hon. Secretary), and Mr. Harris (the Hon. Treasurer). Much of the success of the Local Branch was due to the indefatigable efforts of these Officers, and to the great interest they take in the welfare of the Society. His year of Office as President had been made comparatively easy by the interest taken and support given by the Council, and he would always retain pleasant memories of the harmonious way in which the work of the Branch had been carried out.

Mr. M. J. Harris presented the Financial Statement of Accounts, 1910-1911, for the year ended 30th September, 1911, showing a balance in hand of £53 7*s.* 9*d.*, which had been duly examined and found correct by Messrs. S. C. Dowsett and J. F. Beardwood.

Statement of Accounts for the year ended 30th September, 1911.

RECEIPTS.	£	*s.*	*d.*	EXPENDITURE.	£	*s.*	*d.*
Balance from last year ..	23	14	2	Hire of Meeting Room ..	1	1	0
Examination Fee	0	15	0	Clerical Assistance	1	17	8
				Advertisements	1	14	9
Moiety of Subscription from Home Council	35	14	0	Bank Charges	0	9	6
				Cable Message, etc.	1	12	6
					6	15	5
				Balance at Bank	53	7	9
	£60	3	2		£60	3	2

Examined and found correct,
S. C. DOWSETT,
October 10*th*, 1911.
J. F. BEARDWOOD,
October 17*th*, 1911.

M. J. HARRIS,
Treasurer.

It was resolved that the retiring President's Report and the Hon. Treasurer's Financial Statement be adopted, and copies sent to the Secretary of the parent body, The Society of Architects, in London.

Election of Officers and Committee for 1911-12.—The following is a list of the nominations of Officers and Committee, 1911-12: President, E. H. WAUGH; Hon. Secretary, D. IVOR LEWIS: Treasurer, M. J. HARRIS; Members of Committee, G. W. NICOLAY and J. F. BEARDWOOD; *ex-officio* Members, the retiring President, G. S. BURT ANDREWS, and the Local Hon. Secretary af Pietersmaritzburg, C. H. STOTT.

As no further nominations were received for the various Offices, and Committee, the Members nominated were declared duly elected.

Mr. M. J. Harris proposed that a hearty vote of thanks be accorded to the retiring President for the excellent manner in which he had carried out the duties appertaining to the position during the past year. Several Members spoke in support of Mr. Harris' proposal which was carried unanimously. Mr. G. S. Burt Andrews replied in appreciative terms. The retiring President then vacated the Chair in favour of Mr. E. H. Waugh, the newly elected President. Mr. G. S. Burt Andrews in congratulating Mr. Waugh upon his election to the position of President referred to the splendid work which Mr. Waugh had performed during his office as Hon. Secretary. The newly elected President acknowledged the honour conferred upon him and thanked Mr. G. S. Burt Andrews for his kind references to the work which he had carried out as Hon. Secretary.

Mr. Waugh, upon taking the Chair, returned thanks for his election. He referred to the great want of uniformity of architecture in Johannesburg. There was no broad boulevard approach, except Bree Street, which was in an embryonic stage. Bree Street, towards Newtown, with the subway, which would lead to Brixton, would give a good view of the architecture of the town. Of course, there were a lot of back-yards in the neighbourhood, but in time they would disappear. One grew accustomed to the dirt of Johannesburg, and when one saw a coast town one got a shock. He thought that there should be a larger scheme for dealing with new buildings in the town. On Von Brandis Square there were a lot of good buildings, but the general impression was one of motley. The Fire Station was equally as fine a building as the Law Courts, and upon the other corner there was the Telephone Exchange, which was quarrelling with the style of the Law Courts. That made him think that there should be some Board of Control to deal with new buildings and open spaces. Then there was the University College, a fine building, and yet next door was a collection of wood and iron shanties, which would probably remain there for some time. The period had arrived when the Town Council should prevent wood and iron buildings being erected in sight of people in the streets of a certain defined area.

He hoped that a by-law would be passed to cause wood and iron buildings to be painted.

Mr. Waugh also referred to a proposal first mooted by Mr. G. A. T. Middleton of London, in favour of an Imperial Society of Architects. He felt that there would be difficulty in realizing such a consummation in the near future, as architectural interests varied so in various parts of the Empire, and a Central Control in London of all societies would be a difficult and loose arrangement. Some form of federation was however practicable to-day, whereby, there could be a closer association of all Institutes on common lines, while leaving each one free within wide limits.

Election of Auditors for 1911-12.—Messrs. R. Howden and S. C. Dowsett were appointed to examine the Accounts for the ensuing year, and a vote of thanks was passed in favour of Messrs. S. C. Dowsett and J. F. Beardwood for their services in this connection during the year which had just expired.

Public Health Conference, Cape Town.—The question of the appointment of a Delegate to attend the Conference on Sanitation and Public Health to be held at Capetown, on 9th, 10th and 11th of November, 1911, under the auspices of the Royal Sanitary Institute then came up for decision. The President stated that he had been in communication with Mr. A. Jasper Anderson, Hon. Secretary of the Royal Sanitary Institute at Capetown, who informed him that anyone taking part in the Congress who was not a Member or Associate of the Royal Sanitary Institute would have to pay a fee of one guinea.

The meeting resolved that Mr. A. G. Howard of Capetown be asked to attend the Congress as a Delegate from the South African Branch of The Society of Architects, and that failing Mr. Howard being able to attend, that he be given power to nominate a Delegate in his place. The Hon. Secretary was instructed to write Mr. Howard accordingly and the President was authorized to sign a cheque for one guinea, made out in favour of the Royal Sanitary Institute, in order that the Delegate might have full power to take part in the Congress.

The Meeting closed with a vote of thanks to the Chair.

Australian Federal Capitol Competition.

Members of The Society of Architects are requested not to take part in this Competition under the present conditions.

The late Mr. D. G. Driver.

It is with much regret that we record the sudden death on November 11th, of Mr. D. G. Driver, the Secretary of the Architectural Association. Those who had the pleasure of knowing Mr. Driver personally are aware that he possessed qualifications which peculiarly fitted him for carrying out the onerous duties of his position. He was a gentleman who up to the last devoted himself to the interests of the Association which he so admirably served, and the loss sustained by his death will be generally and severely felt by all concerned.

The British Fire Prevention Committee's Publications.

The British Fire Prevention Committee will publish early next year an illustrated tabular summary of the results of their official fire tests with sixty fire-resisting doors. These important results cover an experimental period of 12 years and embrace practically every type of door. The summary will be published at £2 2*s*. (net).

A similar summary dealing with 15 different types of fire-resisting partitions will be published later, at 10*s*. 6*d*. (net).

These publications will be issued over and above the usual reports and well known "Red Books" of the Committee.

New subscribers to the Committee's publications enrolled during December, 1911, whereby their subscription ranks until the end of 1912, will have the benefit of a number of valuable and important publications in addition to those regularly issued.

The subscription to the publications (£2 2*s*. per annum), includes the use of the Committee's Enquiry Office and the obtaining of back issues of the 150 "Red Books" at special figures, also the summarized results of 28 fire tests with fire-resisting floors, otherwise only obtainable at £1 1*s*. (net).

Enquiries should be addressed to the Assistant Secretary of the British Fire Prevention Committee, 8, Waterloo Place, London, S.W.

The Society of Architects Lodge, No. 3244.

A Meeting of this Lodge was held at the Liverpool Street Hotel, E.C., on November 8th last, when Mr. E. J. Partridge was installed as Worshipful Master, and subsequently appointed and invested the other Officers.

Mr. Partridge who was a founder, has served the Lodge as Secretary ever since. His successor in that office is Mr. C. McArthur Butler, the Secretary of the Society, who is also a founder and who has recently been honoured by being appointed to London Rank.

The Royal Institute and the Society.

"Two Kings in Brentford."

Mr. Leonard Stokes, President of the R.I.B.A., in that part of his address referring to the future of the Royal Institute, says, that with the object of organizing our profession—with the sanction of Parliament—into a strong, united, disciplined, and protected body, negotiations have been proceeding between this Institute and The Society of Architects, it being felt that two kings in Brentford were hardly necessary, and that together we should be much more powerful than working independently. A number of meetings were held early in the year, and the general principles and a number of the details were satisfactorily agreed upon. Unfortunately—perhaps through my own fault—we got on rather faster than our legal advisers approved of, and we were brought up by finding that we had, perhaps, exceeded the powers we possess under our existing Charter and By-laws. This was rather a shock to some of us; but as we had gone so far, we felt that in justice to ourselves and to The Society of Architects, we could not do otherwise than make good the mistakes made. Your Council has, therefore, been considering a revised Charter and By-laws which will enable the two bodies to unite under terms I think advantageous to both parties. This Charter and By-laws will, I hope, be very shortly laid before you, and I trust you will pass them, not, of course, without due consideration and discussion, but without forgetting what has already taken place. For many reasons it seems to me obvious that the two societies should unite; but the reason that will, perhaps, appeal most to our only too human natures is the fact that by building up and increasing the power and influence of this Institute we are building up and increasing our individual power and influence. For the fact of belonging to a powerful body strengthens each of us, and makes us more confident when dealing with the many difficulties that abound in our multifarious duties.

Meetings and other Fixtures.

1911.

Dec. 14th. Committees, Council and Ordinary Meetings. Paper by G. A. T. Middleton, A.R.I.B.A. (Past Vice-President, Hon. Librarian), on "Alexandria: its place in Architectural History."

,, 23rd to 27th. Christmas Vacation.

,, 28th. Interim Committees.

1912.

Jan. 10th. The Society of Architects Lodge 3244. Liverpool Street Hotel.

,, 11th. Committees, Council and Ordinary Meetings. Paper by John Darch, F.S.I., M.R.SAN.INST., on "Illumination as a Study for Architects."

,, 25th. Interim Committees.

Feb. 8th. Committees, Council and Ordinary Meetings. Paper by E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President), on "Housing."

,, 22nd. Interim Committees.

Mar. 7th. Committees, Council and Ordinary Meetings. Paper by A. Alban H. Scott (Member of Council), on "The Testing of Materials."

,, 11th. Examination Entries close.

,, 13th. The Society of Architects Lodge 3244. Liverpool Street Hotel.

,, 21st. Interim Committees.

April 2nd, 3rd, 4th. Examinations for Membership.

,, 5th to 8th. Easter Vacation.

,, 11th. Committees, Council and Ordinary Meetings. Discussion on "The Ethics of Architectural Practice," to be opened by the Secretary.

,, 25th. Interim Committees.

May 1st. Last day for submitting Travelling Studentship Competition Drawings.

,, 8th. The Society of Architects Lodge 3244. Liverpool Street Hotel.

,, 9th. Committees, Council and Ordinary Meetings. Subject of paper to be announced.

,, 25th to 27th. Whitsuntide Vacation.

Sept. 5th. Council Meeting. House List, etc.

,, 9th. Examination Entries Close.

,, 30th. Last day for submitting Scholarship Measured Drawings.

Oct. 1st, 2nd, 3rd. Examinations for Membership.

,, 3rd. Council Meeting.

,, 17th. Twenty-ninth Annual General Meeting.

Mainly about Members.

Mr. Archibald Ainsworth Hunt, of Abbeygate Street, Bury St. Edmunds, has been appointed architect to the West Suffolk County Council.

The Foundation Stone has been laid of St. Mary's Church Ynismeudw. The building will cost about £2,000. The architect is Mr. J. Cook Rees, Neath.

A County School for 200 girls is about to be built at Tunbridge Wells, from plans by Mr. W. H. Robinson, Architect to the Kent Education Committee, Caxton House, Westminster.

The new Duffryn Schools erected on the main road between Cwm and Aberdeeg, Mon., have been opened. The architect was Mr. H. Waters, of Ebbw Vale, and the outlay was about £15,000.

A new Mill is being built in Malpas Road, Truro, for Messrs. Hosker, Trevithick, Polkinhorn, & Co. It is of four floors, and is a frame structure of reinforced concrete, faced externally with Ruabon bricks. Mr. A. J. Cornelius, of Truro, is the architect.

An extension to the Manningham Wesleyan Schools in Carlisle Road, Bradford, has been formally opened. Messrs. Morley & Sons were the architects, and the alterations cost £1,500.

A new English Congregational Church has been opened at Rhymney, Mon. It has been erected at a cost of £1,400, the architects being Messrs. Habershon and Fawckner, of Newport.

Mr. R. M. Chart, who is a Member of the Institution of Municipal and County Engineers, and the Architect and Surveyor to the Croydon Rural District Council, is included in the list of new Magistrates for the County of Surrey. Mr. Chart is also Alderman of the Surrey County Council.

The First of a Series of Lectures was recently delivered in Dublin by the Professor of Architecture to the National University, Mr. William A. Scott, A.R.H.A., A.R.I.B.A. These Lectures are in connection with the Faculty of Architecture recently created, and are designed to qualify for the degree of B. Arch.

At the opening meeting of the winter session of the Nottingham Architectural Society, Mr. Henry Gill, a member of the Council, gave a most interesting lecture, entitled "Holiday Rambles in Norfolk." This was fully illustrated by a large number of his own lantern views of the buildings and churches in Norwich, King's Lynn, Cromer and the small villages in "Poppy Land." The lecturer pointed out the special architectural features of each view, and in the short time at his disposal gave a lot of useful and interesting information. The lecture was fully appreciated, and at its conclusion the President and Vice-President expressed the thanks of those present to Mr. Gill.

The Finance Committee of the City of London Guardians having considered the plans and specifications of the Architect (Mr. A. E. Pridmore), for adapting the Board's Bow Premises as a Metropolitan Poor Law Institution, at an estimated cost of £8,150, have decided that application should be made to the Local Government Board for consent to the Guardians inviting tenders from selected firms. They have also decided to enter into a contract with Mr. A. E. Pridmore, to supervize the building scheme at a fee of five per cent. on the certified amount of work done on completion of the scheme, and to pay him the sum of 50 guineas for plans and schemes submitted but not carried out.

Councillor Joseph Boothroyd Corby, who has been elected Mayor of Stamford, was articled in 1853 to the late Edward Browning, A.R.I.B.A., with whom he remained for twenty-one years. In 1874 he commenced practice on his own account, and has carried out many buildings in the town, including the Burghley Estate Offices, the Oddfellows' Hall, North Street Baptist Chapel, and numerous residences, hospitals, schools, etc. Mr. Corby has been successful in many architectural competitions for labourers' cottages, hospitals, Town Halls, Corn Exchanges, Public Baths, Cottage Homes, Offices, etc. Mr. Corby has also carried out many works on the Burghley, Apethorpe, Uffington, Elton, Exton, Ayston, Boswell, and other Estates, also a town house for the late Earl of Rosslyn, and Grafton House and Racing Establishment at Newmarket, for the late Baron Lucien de Hirsch. Mr. Corby was first elected to the Town Council on November 2nd, 1891, and has sat, with a brief interval up to the present time. He is a County Councillor for the Kesteven Division, a Member of the Board of Guardians, Chairman and Surveyor of the Stamford Building Society, and a Trustee of the "Loyal Albion" Lodge of Oddfellows, having passed all the Chairs, including Provincial Grand Master of the District. He is a Fellow of the Surveyors' Institution, a Member of the Council of The Society of Architects, which body he joined in 1884, and a Member of Spalding Antiquarian Society, etc.

Examinations for Membership.

DATE AND CENTRES.

An Examination in the following subjects will be held by The Society of Architects, in **London, Manchester, Leeds, Cardiff, Birmingham** and **Oxford,** on **April 2nd, 3rd and 4th, 1912.**

An Examination will also be held in **Johannesburg** and other **South African Centres,** under the auspices of the South African Branch of the Society, during December, on dates to be arranged. Application should be made in the latter case to the local Hon. Secretary, Mr. D. Ivor Lewis, P.O. Box, 667, Johannesburg.

Section	I.	ARCHITECTURE.	Planning, design, architectural history.
,,	II.	BUILDING.	Construction and materials.
,,	III.	PRACTICE.	Contracts, specifications, quantities.
,,	IV.	SANITATION.	Ventilation, drainage, water supply, etc.

The latest date of entering for the Home Examination is March 11th, 1912.

Papers for Session, 1911-12.

The following arrangements have been made for the Session :—

1911.

Dec. 14th. "Alexandria: Its Place in Architectural History." By G. A. T. Middleton, A.R.I.B.A. (Past Vice-President, Hon. Librarian).

1912

Jan. 11th. "Illumination as a Study for Architects." By John Darch, F.S.I., M.R.SAN.INST.

Feb. 8th. "Housing." By E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President).

Mar. 7th. "The Testing of Materials." By A. Alban H. Scott (Member of Council).

April 11th. Discussion on "The Ethics of Architectural Practice." To be opened by the Secretary.

May 9th. Subject to be announced.

Ordinary Meeting.

The Second Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, December 14th, 1911, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Paper on "Alexandria: its place in Architectural History."
By Mr. G. A. T. Middleton, A.R.I.B.A., Past V.P., Hon. Librarian.

Light refreshments will be served after the meeting.

Mr. Middleton's paper to be read before the Society on December 14th, promises to be one of unusual interest. Among other matters he will deal with are Alexandria as the centre of Greek culture, and the meeting place of many influences in the 2nd and 1st centuries, B.C.; the recently discovered Catacombs, with carvings showing combined Ptolemaic, Egyptian, Assyrian and Grecian influence; Greek Corinthian Capitals in the Museum (Was Alexandria the home of the Greek Corinthian Order ?); Roman remains on the shore near Abou Kir, including extensive foundations of buildings cut in the coral rock; Byzantine Capitals in the Museum.

[*Supplement.*]

THE Journal OF The Society of Architects

FOUNDED 1884. INCORPORATED 1893.

Including Transactions and Architectural Notes.

No. 50. Vol. V. DECEMBER, 1911. [New Series.

Candidates for Election, December 14th, 1911.

The following applicants have been found by the Council to be eligible for candidature, and their nominations were announced at the Ordinary Meeting, on November 16th, 1911.

Communications in respect of these candidates must reach the Secretary for the information of the Council, before December 14th, 1911, on which date their names will be on the list for election by ballot of the members at the Ordinary Meeting, at 8 p.m.

For Membership :—

BARKER, FREDERICK WILLIAM CHARLES, 98, Nevill Road, Stoke Newington, N.	Proposed by E. C. W. EVANS and E. J. SADGROVE.
BENWELL, WALTER RICHARD, 249, Portnall Road, Maida Hill, W.	Proposed by C. F. MITCHELL and E. ARCHER.
BLACKMORE, ALFRED CHARLES, 3, Alfred Gelder Street, Hull.	Proposed by E. C. P. MONSON and G. E. BOND. By direction of the Council.
BROMLY, ALAN, 3, Wellesley Grove, Croydon.	Proposed by R. M. CHART and F. WINDSOR.
CATLING, FRANK RICHARD, 39, Warbeck Road, Shepherds Bush, W.	Proposed by A. ALBAN H. SCOTT and FRANK J. FISHER.
CHILTON, ERNEST ALFRED, 18, Ceylon Place, Eastbourne.	Proposed by S. G. SCALES and W. H. OVERTON.
COOKE, FREDERICK GEORGE, ASSOC.M.INST.C.E., 2, Hyde Gardens, Eastbourne.	Proposed by A. FORD and R. G. LOVELL.
CRICKMAY, GORDON HAYTER, 9, Leigh Park Road, Leigh-on-Sea.	Proposed by C. H. MEAD and MAX ZIMMERMANN.
DAVIES, WILLIAM GEORGE, 21, Holt Road, Birkenhead.	Proposed by WALTER W. THOMAS and R. G. SYKES.
ELLIS, HERBERT OWEN, 46, Fenchurch Street, E.C.	Proposed by PERCY B. TUBBS and E. C. P. MONSON.
HALL, ANNIE, 5, Verulam Buildings, Grays Inn, W.C.	Proposed by T. OVERBURY and S. H. HEALING.

[OVER.

For Membership (continued :—

Hanson, Septimus Charles, Beverley, Southall.	Proposed by A. Alban H. Scott and Henry Adams.
Haymes, Richard Evered, Clifford Road, Shrewsbury.	Proposed by F. Foster and W. Scott Deakin.
Johnson, William Harold, 92, Swinley Road, Wigan.	Proposed by R. A. Heaton and A. J. Murgatroyd.
Jones, Jacob Herbert, 15, Wind Street, Swansea.	Proposed by David Morgan and Charles T. Thomas.
Keay, Walter Henry Lawrence, 44, Arundel Gardens, W.	Proposed by G. A. T. Middleton and E. W. Cannell.
Leete, Herbert, County Architect and Surveyor, Huntingdon.	Proposed by G. H. Jack.
Lester, John Milner, 9, Hindes Road, Harrow.	Proposed by J. N. K. McKilliam and Edward Proctor.
Peters, Kershaw, 3, Devon Place, Galway.	Proposed by E. C. P. Monson and Percy B. Tubbs. By direction of the Council.
Pickering, John, The Knoll, Canterbury, S.	Proposed by W. J. Jennings and W. H. Robinson.
Picton, Clement John, Park Road, Chard.	Proposed by W. Yeomans and E. T. Howard.
Rayson, Thomas, Hughenden, Bickerton Rd., Highfield, Oxford.	Proposed by G. A. Harrison and E. C. P. Monson. By direction of the Council.
Shail, William Charles, Station Road, Llandaff.	Proposed by T. H. Dobson and Sidney Williams.
Swanston, John Daniel, Redholm, Milton Road, Kirkcaldy.	Proposed by E. C. P. Monson and Percy B. Tubbs. By direction of the Council.
Thomas, David, 10, Quay Street, Ammanford.	Proposed by W. D. Jenkins and E. V. Collier.
Whitaker, Vivian Stanworth, Kirkwood, Clitheroe Road, Brierfield, Burnley.	Proposed by G. E. Bond and E. C. P. Monson. By direction of the Council.
Whiting, Frank Edward, 30, Bedford Row, W.C.	Proposed by H. Guicharde Todd and C. H. Mead.
Williamson, Henry Burcombe, 2, Sackville Crescent, Ashford.	Proposed by E. C. P. Monson and Percy B. Tubbs. By direction of the Council.

For Studentship :—

Gomm, John, 55, Creighton Road, South Ealing, W.	Proposed by T. H. Nowell Parr.
Keefe, Edgar Ernest, Eaton Bower, Norwich.	Proposed by H. G. Kemp.
Ryan, Bernard John, 191, St. Stephen's House, Westminster, S.W.	Proposed by W. P. Ryan.
Soulby, Alfred Christopher, 26, Hamilton Gardens, St. John's Wood, N.W.	Proposed by E. Archer.
Thomas, David Reece, Bryncastell, Llangadock, S. Wales.	Proposed by W. D. Jenkins.

28, *Bedford Square, W.C.*

C. McARTHUR BUTLER, *Secretary.*

THE

Journal

OF

The Society of Architects

FOUNDED 1884. INCORPORATED 1893.

Including Transactions and Architectural Notes.

No. 51. Vol. V.] JANUARY, 1912. [New Series.

The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

The Royal Institute of British Architects and The Society of Architects.

At a Special General Meeting of The Society of Architects, held in April last, the members adopted the principles of a Registration Bill, approved the terms of a proposal for the fusion of the Society with the Royal Institute, and authorized the Council to enter into an agreement with the Council of the Royal Institute for carrying these proposals into effect.

On the eve of the Society's Confirmatory Meeting, intimation was received that the Council of the Royal Institute were advised that they had no powers under their existing Charters to enter into the agreement. The Society's Confirmatory Meeting was therefore adjourned.

The Council of the Royal Institute have since drafted a new Supplemental Charter and By-laws to enable the arrangements already provisionally agreed upon to be carried into effect and have summoned a Special General Meeting of the Royal Institute for January 8th, 1912, to consider the question of applying for a new Supplemental Charter and By-laws to authorize the Council of the Royal Institute to enter into a conditional agreement with the Council of The Society of Architects.

A copy of these documents, which also embody an explanatory statement of policy drawn up by the Council of the Royal Institute have been sent to Members of the Society for their information.

If the proposals are passed in their present form by the Royal Institute (but not otherwise), the Members of the Society will be called together at a Special General Meeting of which due notice will be given, for the purpose of dealing with the matter.

If any Member of the Society has not received the documents, he should communicate at once with the Secretary.

Proceedings.

THE Second Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, December 14th, 1911, at 8 p.m.

The President, Mr. Geo. E. Bond, J.P., having taken the Chair, it was resolved that the minutes of the previous Ordinary Meeting, having been printed in the Journal be taken as read. The minutes were then confirmed and signed.

Ten nominations for membership and nine for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Barker. Frederick William Charles,	98, Nevill Road, Stoke Newington, N.
Benwell. Walter Richard,	249, Portnall Road, Maida Hill, W.
Blackmore. Alfred Charles,	3, Alfred Gelder Street, Hull.
Bromly. Alan,	3, Wellesley Grove, Croydon.
Catling. Frank Richard,	39, Warbeck Road, Shepherds Bush, W.
Chilton. Ernest Alfred,	18, Ceylon Place, Eastbourne.
Cooke. Frederick George, Assoc.M.Inst.C.E.,	2, Hyde Gardens, Eastbourne.
Crickmay. Gordon Hayter,	9, Leigh Park Road, Leigh-on-Sea.
Davies. William George,	21, Holt Road, Birkenhead.
Ellis. Herbert Owen,	46, Fenchurch Street, E.C.
Hall. Annie,	5, Verulam Buildings, Grays Inn, W.C.
Hanson. Septimus Charles,	Beverley, Southall.
Haymes. Richard Evered,	Clifford Road, Shrewsbury.
Johnson. William Harold,	92, Swinley Road, Wigan.
Jones. Jacob Herbert,	15, Wind Street, Swansea.
Keay. Walter Henry Lawrence,	44, Arundel Gardens, W.
Leete. Herbert,	County Architect and Surveyor, Huntingdon.
Lester. John Milner,	9, Hindes Road, Harrow.
Peters. Kershaw,	3, Devon Place, Galway.
Pickering. John,	The Knoll, Canterbury.
Picton. Clement John,	Park Road, Chard.
Rayson. Thomas,	Hughenden, Bickerton Rd., Highfield, Oxford.
Shail. William Charles,	Station Road, Llandaff.
Swanston. John Daniel,	Redholm, Milton Road, Kirkcaldy.
Whitaker. Vivian Stanworth,	Kirkwood, Clitheroe Road, Brierfield, Burnley.
Whiting. Frank Edward,	30, Bedford Row, W.C.
Williamson. Henry Burcombe,	2, Sackville Crescent, Ashford.
Gomm. John,	55, Creighton Road, South Ealing, W.

As Students :—

KEEFE. EDGAR ERNEST,	Eaton Bower, Norwich.
RYAN. BERNARD JOHN,	191, St. Stephen's House, Westminster, S.W.
SOULBY. ALFRED CHRISTOPHER,	26, Hamilton Gardens, St. John's Wood, N.W.
THOMAS. DAVID REECE,	Bryncastell, Llangadock, S. Wales.

MR. G. A. T. MIDDLETON, A.R.I.B.A. (Hon. Librarian), then gave an illustrated lecture on " Alexandria ; Its Place in Architectural History."

MR. R. G. LOVELL (Member of Council), in proposing a vote of thanks to the lecturer, said that the important discoveries which Mr. Middleton had made showed how necessary it was for them to keep their eyes open wherever they went. He had himself passed through Alexandria, but beyond the extremely interesting catacomb to which Mr. Middleton had referred he was not at that time aware that there was anything of architectural interest in the place. He did not even know that there was a museum until he heard it from Mr. Middleton. The lecturer's deductions with regard to the home of the Corinthian Order seemed to be exceedingly well founded. The evidence of Egyptian occupation was to be traced a good deal further up the Nile than Alexandria, as he remembered making a sketch of an Ionic capital at Luxor. They had heard from Mr. Middleton something entirely new and which would strike the Archæological world with even more force when it was seen in its true perspective. He expressed his unbounded admiration for Mr. Middleton, who at the time was travelling in pursuit of health, for his work in gathering the materials for the subject of his lecture which had been much appreciated.

MR. H. FREYBERG, F.S.I. (London), in seconding the vote of thanks expressed his appreciation of the lecture and the charming way in which it had been presented to them. Scientists for the most part were so absorbed in their matter that in their manner they ignored the fallibilities of their audience. He had never had the opportunity of visiting any part of Egypt, but there was one idea which arose in his mind, as Mr. Middleton proceeded, and that was the question as to what had become of the remainder of the buildings of which vestiges had been found, and which, if existing at the present time, would be remarkable throughout the whole world. The answer to that query he thought might be found in the history of places like Venice, where at the conclusion of a successful war the conquerors made their opponents in addition to the war indemnity throw in certain shafts of precious marbles which were carried to the home of the victors. If, therefore, shafts could be taken, people with the taste and culture of the Venetians were not likely to leave behind the capitals, and in praising the Venetians for the West Front of St. Marks, they were probably giving them credit for the brains and artistic efforts of a people in far distant countries, who existed in far distant times. No one, he thought, who designed the façade in question on paper would have put in so many shafts and capitals in positions, ornamental rather than structural, and it was more than likely that they were added as they were secured from vanquished foes. It is known that the Venetians did take away from Alexandria the body of St. Mark, and it seems quite likely that portions of the Church could also have been received where easily removable.

Mr. H. Slicer (London), having made some reference to the use of arches 3,000 or 4,000 B.C.

Mr. Robert W. Carden, in supporting the vote of thanks, said he was waiting to hear Mr. Middleton mention the name of the architect who was supposed to have laid out the city of Alexandria on behalf of Alexander the Great. He was aware that at the present day the architect's name was often overlooked when his work was mentioned, but he did not expect a gathering of architects to follow so bad an example. So far as he knew, the architect was Dinocrates, the architect who re-built the Temple of Diana at Ephesus, and the city was founded he believed in 332 B.C. The employment of Dinocrates strengthened Mr. Middleton's argument, and the sketch of the Ionic capital which Mr. Middleton had made, followed by a photograph of the capital from the Temple of Diana, at Ephesus, showed that the history of Alexandria was not only quite in keeping with Mr. Middleton's very interesting deductions, but would possibly prove his surmises to be correct.

Mr. Geo. E. Bond (President), in putting the vote of thanks to the meeting, associated himself with all that had been said. Mr. Middleton had made a point of the fact that Alexandria from an architectural point of view had been neglected, and he entirely agreed with him, but he thought the reason was that Alexandria had other claims to distinction which were overwhelmingly obvious, and to a great extent overshadowed any claim it might have to be an architectural centre. Alexandria, during the Ptolemaic period, developed the exact sciences and did so much for the establishment and development of what they might call modern civilization that they were now feeling its effects and were enjoying its results. When they considered the great names which were household words with them, such as Euclid, Archimedes, Eratosthenes, Hipparchus, and Ptolemy, who wrote a work upon Astronomy, giving a mathematical construction of the heavens which held its place up to the time of Kepler and Newton, there appeared to be some reason for people not taking so much interest in it from an architectural point of view. As we have looked upon Athens as the cradle of Architectural Art, so Alexandria was the cradle of the exact sciences; Athens imaginative and artistic, Alexandria practical and scientific, for it was founded just at the time when the imaginative Greek philosophy which culminated in Plato was giving way before the more practical and reasoned philosophy of his great pupil Aristotle who, by the way, was for many years the tutor of Alexander the Great. At the present time, they were reaping the benefit and following closely in the footsteps of the scientists, who to a great extent owed their fame to the great museum founded by the second Ptolemy, Philadelphus, and to the great Library, the collection of which was initiated by Ptolemy Soter, the founder of the Dynasty. Alexandria has always been noted for its great museum and its great library, which were among the wonders of the world.

A hearty vote of thanks was then accorded to Mr. Middleton for his lecture.

MR. G. A. T. MIDDLETON, A.R.I.B.A., in reply expressed his thanks for the way in which his remarks had been accepted, and said Mr. Bond was very likely right as to how it had come about that Alexandria had been thought more of from another point of view than that of architecture. Mr. Freyberg's suggestion with regard to the disappearance of the major portion of what must at one time have been a very fine city, was also probable, although it was only surmise. They knew that Alexandria was the centre of a most extraordinary contest between the Christians and Pagans, leading to fight after fight, and eventually the conquering Christians absolutely destroyed all evidence of the previous Pagan religion, and so the whole of the great city of Alexandria perished, swept away by fire after fire. The discoveries made in recent years had only come to light through the reclaiming of the foreshore, and it was almost incredible that a Curator of a Museum had placed things of great archæological interest in his museum without letting Europe know. One would have thought that a French curator would at least have notified Paris and thus ensured its report throughout the civilized world. There was not a word on the labels of any of the remains in the Alexandrian Museum as to where it was found or its probable date. In reply to Mr. Slicer, he did not intend to imply that the arch was not known to the Greeks or the Egyptians, but it was exceedingly rare, and he did not know of a case of a Greek capital being used in connection with the arch, although, there was a strong suggestion of it having been used at Alexandria. He had to thank Mr. Carden for reminding him of the name of the architect who laid out the city of Alexandria.

The proceedings then terminated.

Alexandria: its Place in Architectural History.

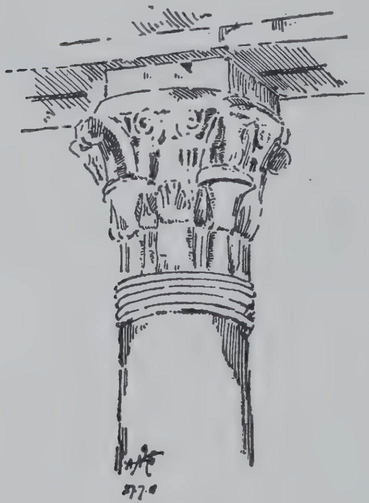
By G. A. T. Middleton, A.R.I.B.A. (*Past Vice-President, Hon. Librarian*).

ON account of its geographical position and fine natural harbours, easily made more safe by artificial means, Alexandria has necessarily been the most important seaport of Egypt for many centuries, while it was for a considerable period one of the very greatest cities of the civilized world. This was during, and extended beyond, the fourth important building epoch in Egyptian history, that known as the Ptolemaic, its greatness lasting from the days of Alexander the Great—say, roughly, from 330 B.C.—to the 7th century A.D. Near as it is to Cairo, there seems to be no evidence that it was a place of importance when the pyramids were building, four thousand years before that time, nor even during the Proto-Doric or the Theban periods; but at the later date referred to, when there was a renaissance of Egyptian architecture at Edfou and Philæ so closely resembling the Theban work of Karnack and Luxor as not at first acquaintance to be easily distinguished from it, Alexandria was at the height of its prosperity. It occupied a position where many influences met. It was founded and colonized almost entirely by Greeks at first, these being afterwards augmented if not supplanted by Romans; and it traded with all parts of the Eastern Mediterranean by sea, and simultaneously up the Nile with Egypt, and by caravan even with Assyria and Babylonia.

Thus it was the natural meeting place of many influences, particularly at the time when Greek art was declining and the Roman scarce developed; yet not much is known of it, and the archæologist and the enquirer into the evolution of architectural forms had troubled little about what its ruins might have to tell; for, not once but several times, it has been ravaged and destroyed, and the remains of its former glories are comparatively few, and the actual dates of such fragments as have been discovered can by no means be determined with precision. Even the buildings of which they formed a part can, as a rule, be only guessed at, so complete has the destruction been, and apparently so scant the care taken to record, even approximately, where the remains have been found; the site of the ancient city being now occupied by a modern town, partly Arab and partly European, or submerged beneath the waters of what is called the old harbour (now cased with a sea-wall), while a new harbour with great wharves and quays occupies a large area to the South of it. Excavating and investigation have been unmethodical and spasmodic, and far more frequently undertaken for the purpose of utilizing the masonry of former structures for the erection of new ones than for archæological research. Even at the present time a low hill, honeycombed with catacombs, is being quarried away bodily to provide stone for a new quay in the harbour, which is to become the Mediterranean terminus of the Cape to Cairo Railway!

Under such circumstances it is to the Museum that a visitor naturally turns first for enlightenment; to be met, to a certain extent but not entirely, by disappointment. It contains, it is true, numerous objects possessing both interest and beauty, arranged with considerable regard to artistic effect; but it is necessary to make one's own deductions from them. Of orderliness, in the scientific sense, there is little, for though here and there an attempt has been made to collect statuettes or architectural features into groups, there has been scarcely any effort to differentiate with regard either to probable date or to locality of discovery—in most cases probably unknown. The descriptions attached to the exhibits are silent on these points, having been obviously composed by one who was more enthusiastic as an art critic than as an archæologist, and consisting for the most part of eulogies in French upon the beauty of the object, its contour, modelling and colour, wholly valueless to one in search of knowledge and capable of judging of these things for himself. It is only possible, therefore, to accept the collection as being Alexandrian, and to apply knowledge acquired elsewhere to the double task of first producing some order out of the prevailing chaos, and then discovering in what way and to how great an extent Alexandrian architecture was influenced by what went before it, and how it afterwards influenced what was to come.

The lessons learnt, if not many, are by no means insignificant, but before those of the Museum itself can be fully understood it is necessary to pay a visit to the principal Catacombs, which are under the control of the Museum authorities. The central chamber, reached by a spiral staircase from the surface, and cut in the solid rock, is said (on doubtful authority) to be the tomb of Caracalla and his wife. At any rate its entrance is flanked by indifferent statues of a Roman Emperor and Roman lady; but these are probably of later workmanship than the chamber itself, as are also certain obviously Roman sarcophagi and Roman urns. The architectural and sculptural embellishments of the room and its immediate approach are of the most mixed character imaginable; but they agree in their indications of date, and leave little doubt about the work having been done, most of it, about 200 B.C. There are pilasters with lotus capitals such as one would expect to find in the purely Egyptian work at Philæ, executed in the Ptolemaic period; before the entrance are two columns, with Egyptian entasis but capitals of mixed Greek and Egyptian character, having volutes such as those of the well-known capitals of the Choragic Monument of Lysicrates, at Athens, but springing, by no means incongruously, out of lotus buds and flowers instead of acanthus leaves; round the inside of the chamber there runs an ovolo moulding enriched with the egg and tongue, carved in a manner which suggests late Greek workmanship; while the wall carvings are of Assyrian or Babylonish character, human figures with heads of beasts or birds, executed in low relief, coarser



Corinthianesque Capital in the Catacombs.

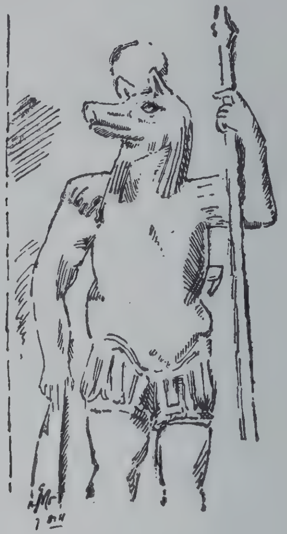
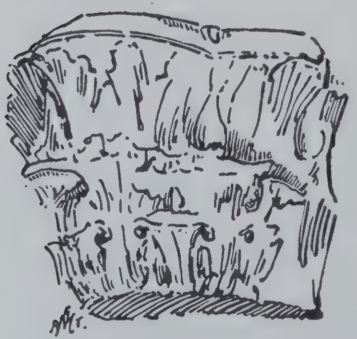
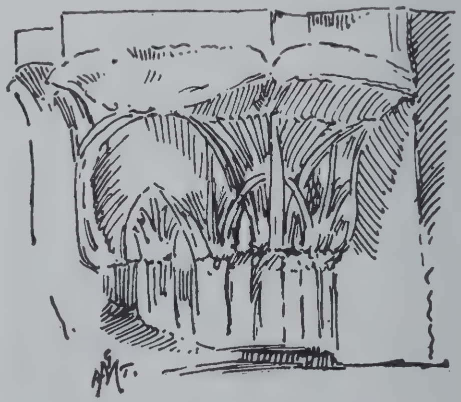


Figure of Anobis in the Catacombs.

in execution than the wall slabs of Nimroud palaces, because cut in a coarse grained soft stone and not in alabaster, but just as vigorous and a trifle more malignant in expression. Then, in three places, over large semi-circular recesses, the shell ornament appears, exactly as it is found in Renaissance work in Italy . This is inexplicable, except upon the hypothesis that the ornament was common when the catacombs were excavated (in other words, when Alexandria was at the zenith of its glory) ; or alternatively upon the supposition that this decoration is not ancient at all, but fraudulently imitative work of the European Renaissance period. The

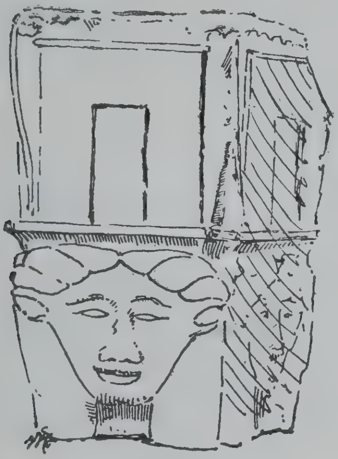


Ptolemaic Capital.

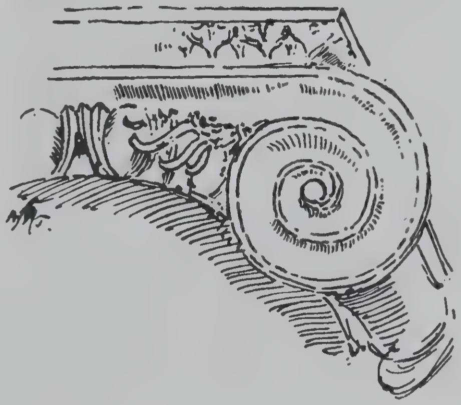


Palm Leaf Capital.

probability is that it is ancient, for while the shell ornament is not to be found in the museum, it contains examples which suffice to indicate that the other architectural embellishments of the catacomb chamber, such as the carved capitals and the egg and tongue enrichment, were by no means uncommon in Ptolemaic Alexandria. There are, for instance, several small capitals in a fair state of preservation, carved in the soft local stone, of the well-known character of the work at Edfou and Philæ, generally representative of the palm or the lotus flower and bud, purely Egyptian and of Ptolemaic date, displaying no sign of Grecian influence, and only differing from the better known and similar work of Middle Egypt by the more delicate and finer craftsmanship displayed, and to that being carved which at the earlier period would more likely have been merely painted; this being clearly due to the use of a soft stone instead of granite or basalt. It is not exhibited, for instance, in the one Hathor-headed capital which the museum contains, which has been sculptured out of basalt with the usual emphasis of essential form and avoidance of unnecessary detail to be found in Egyptian carvings in hard materials of all dates.



HATHOR-HEADED CAPITAL.



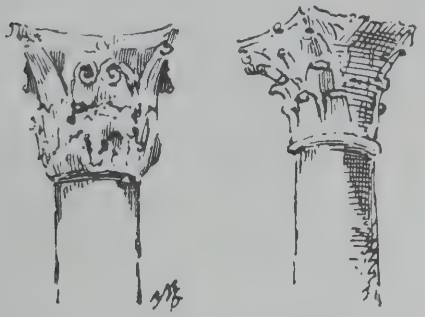
GREEN IONIC CAPITAL.

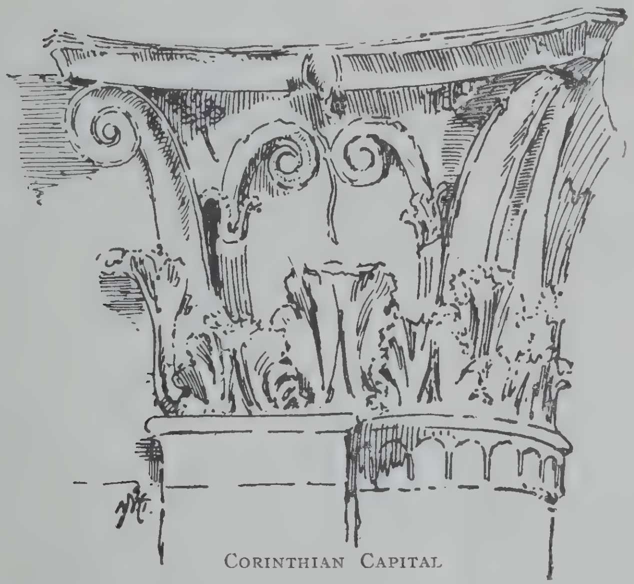
Just as it is not surprising to find purely Egyptian characteristics in the ornament of the Catacomb chamber, so is the presence of Greek feeling only what might be expected. Essentially, Alexandria was a Greek Colonial Settlement, if not at one time the greatest centre of Greek civilization, and the Museum contains more architectural objects of Greek spirit, both in design and execution, than almost any other in the world—all presumably local. Thus the Greek egg and tongue is a common enrichment. It is seen, for instance, on a few Ionic capitals, enriching the echinus in the usual way, while the abacus is similarly enriched with the leaf and tongue, all sharply cut after the typical Greek manner, particularly that of a somewhat late date, such as is found at earliest in the Mausoleum at Halicarnassus (B.C. 350). The shallow character of the volute also suggests late workmanship; it recalls that of the Nereid Monument from Lycia, now in the British Museum, which is generally considered to belong to the 1st century B.C. The Alexandrian examples probably belong to a period between these dates.

So far as the multitude of examples may be taken to indicate anything, however, they give the undoubted impression that the principal Greek work at Alexandria was of the Corinthian Order. It is well known that to the west of Greece, in Sicily and Magna Græcia (Southern Italy), the Doric Order was employed exclusively, while to the east, along the Syrian coast, the Ionic was used as universally. In Greece itself, as at Athens, the greatest buildings were Doric, those of secondary size and importance were Ionic, and only the tiniest and most delicate gems were Corinthian—that is, in the days of independence. Later on, when the Romans ruled, the great Temple of Jupiter Olympius was, it must be admitted, erected in the Corinthian Order.

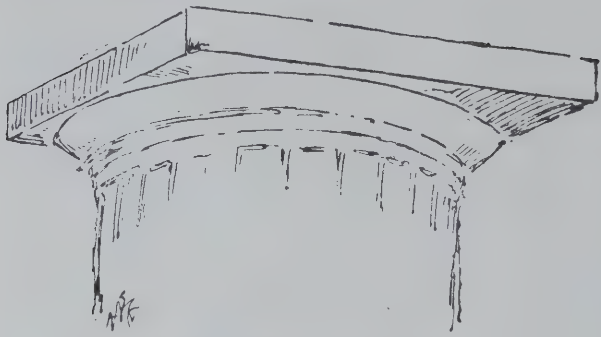
But the recognized examples of Greek "Corinthian" are extremely few, so few that they can be numbered on the fingers of one hand. The Choragic Monument of Lysicrates, very small, has generally been considered the most typical, till the discovery of the more beautiful capitals of the internal Order of the Tholos at Epidaurus. Both of these examples have tendril volutes springing from acanthus leaves, and so probably had the elliptical capital, of apparently late workmanship, which was brought from the site of the Temple of Diana, at Ephesus, and is now in the British Museum. As a rule, in the known Roman examples of Corinthian capitals the tendril is stiffened and strengthened till it has more the appearance of a voluted leaf—so much so, that the gradual evolution from it, through Romanesque work, of the French "crochet" capital has been traced, in which the leaf is that of the hart's-tongue fern when partly open.

Is it possible that Alexandria was the real home of the Corinthian Order? and that the tendril volute was a mere local variation, beautiful but not essential to it? In the numerous examples in the Alexandrian Museum, the tendril volute is never found, but it is replaced by a broad voluted leaf at the corners—though tendrils are used for the caulicolæ. The capital in this form is exquisitely beautiful and structurally strong enough for employment on a large scale—and several of the numerous examples are quite large; while the development from it of the Roman form is natural and easy. Possibly the type persisted for a lengthy period, bridging the gap between the Greek and Roman, for it is found in the Khartoum Monument, recently compiled from ancient fragments, of which the capital is Greek (about 200 B.C.), and in the capital of Pompey's Pillar, known to have been erected in 302 A.D., which is Roman. But in almost every instance both the general spirit and the workmanship are Greek. On the other hand there is at least a possibility that the arch was known and used. One of the largest and most exquisitely designed Corinthian capitals is so contrived as to rest partially upon a semi-circular attached column, and partly on the wall to which it was connected, having a pilaster strip upon its flank. This is compatible, perhaps, with trabeation, but much more so with acuation; yet in the absence of any further records of the building which this capital enriched, or even of where it was discovered, further speculation is vain.

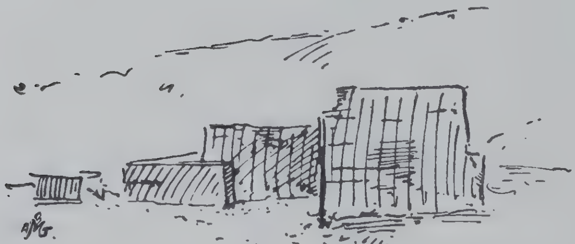

Capitals of the Khartoum Monument (Greek) and of the Pompey's Pillar (Roman) Compared.


Corinthian Capital

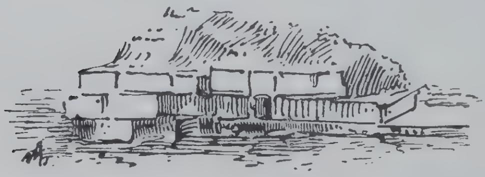
There is only one Doric capital in the Museum, and that is of exceedingly late Greek character, and carved in the local white stone, with a shallow abacus and echinus, and with annulets replaced by flat bands, like those found just below true Egyptian capitals of all known types and dates. Again, it is possible that an intermediate form is recognizable between the types of Greece and Rome, but the evidence is insufficient to base a theory on. Certainly there is another similar capital near Alexandria, lying on the beach some half-mile to the South of Nelson's Island and the Bay of Abou Kir, so like this one in size and workmanship, so far as can be judged (for it has suffered much from the action of sea-water) that it might well have been another of the same range as that in the Museum. No more than this could be said, if it were not for abundant evidence that here, upon the shore, some fifteen miles from Alexandria itself, there was at one time a place of considerable size, possibly a pleasure resort (Canopus is known to have existed somewhere in this neighbourhood); for the shore-line is broken up into a series of small, well protected and almost land-locked bays with sandy beaches, separated from one another by low headlands of



Greco-Roman Doric Capital.



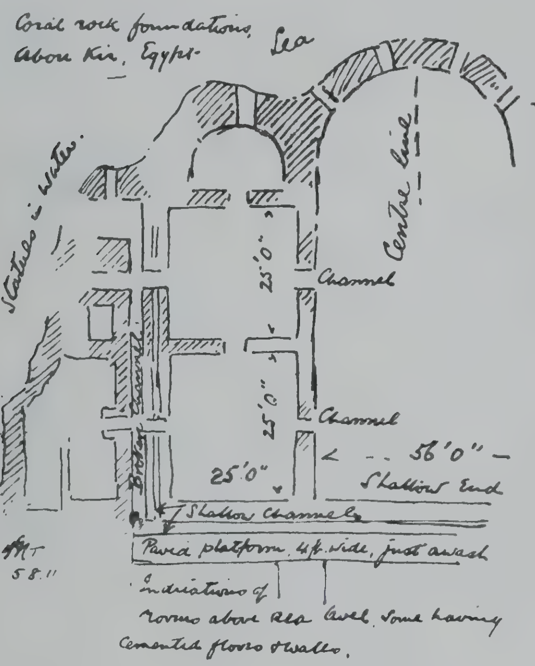
Coral Rock Foundations, Abou Kir.



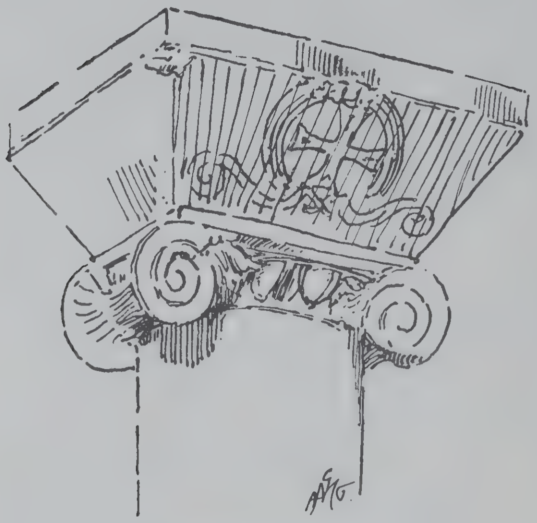
Squared Masonry Island on foreshore,
Abou Kir.

coral rock, forming safe and delightfully picturesque bathing places. Overlying the coral there is a softer rock, little better than compacted sand, which forms a low cliff, nearly vertical, and against this as a backing there have been buildings in the Roman period, extending out towards and in some cases into the sea. For a length of close upon a mile there are constant evidences of this, the escarpment being in some places given a facing of Roman tiles (or bricks), sometimes plastered on the surface, and in others of squared masonry; while in other places cross walls of the same materials project from the cliff towards the sea; and in yet others, and much more frequently, the coral bed has been worked in the solid into the shape of rooms with intervening walls, the present level of the floors being sometimes below and sometimes above the water level—which varies little, for there is scarcely any tide. Some of these floors, generally those of small square rooms, are plastered, and the plaster is carried up the sides as high as the coral goes—some eight or ten inches perhaps; but the walls once erected on these coral foundations have almost entirely vanished. Yet in one notable instance at least a mass of squared masonry still exists, surmounted by rubble, raised upon a tiny coral island some twenty yards from shore, but still easily reached by using as stepping stones the remains of the low coral walls of a series of intervening hollowed chambers, sunk but little below sea-level. When closely examined this masonry is found to be cemented by an exceedingly hard mortar, containing white marble chippings and crushed Roman brick. The presence of a lime kiln some two hundred yards inland from the cliff edge, indicates where the lime may have been obtained from.

Most of these indications of a Roman settlement are fragmentary, and need careful surveying for their elucidation, but upon one of the promontories there is something more, the remains of what was obviously once an important building. Close to it, upon its north, there lies the Doric capital already referred to, having a diameter of twenty inches, and a little further North again is a broken drum of a column, the approximate diameter of which is twenty-two inches, of a beautiful blue marble veined with white. On the other side of, and almost adjoining it to the south-east, half-submerged in water, are great masses of worked granite, having every appearance of being portions of an attached colossal statue of Ptolemaic Egyptian character. Casual inspection from the shore could determine no more than this, though one fragment looked as if it were reeded; a well-equipped party might spend some time in discovering more among the surf. So, too, it is with the building, of which a few rough dimensions only could be taken by a solitary individual having only a 2-ft. rule in his pocket, and but a short hour or two at his disposal. There would even be some danger in making a close examination of the passages through the apse walls, considering how the sea pours through; but the accompanying plan of half of this extraordinary place will indicate, with the notes made upon the spot, that it is worth close investigation. It is all submerged, it must be remembered, except the "walls," and these are not built but formed of the solid coral rock, out of which the chambers and channels have been hollowed; and the chambers are cut to a greater depth seawards than towards the shore, where they eventually rise above sea-level, as if they had been the ante-rooms to an enclosed sea bathing establishment.

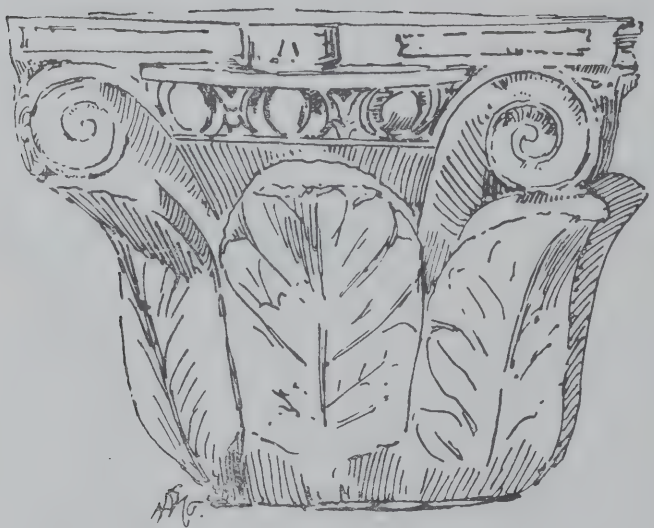

Coral rock foundations, Abou Kir, Egypt.
Sea
Statues in water.
Centre line
25'0"
Channel
25'0"
Channel
Broken channel
56'0"
25'0"
Shallow End
Shallow channels
Paved platform, 4ft. wide, just awash
Indications of rooms above sea level, some having cemented floors & walls.
5.8.11

There is a possibility, it must be admitted, that these remains (which can hardly be called ruins, being little more than rock-cut foundations) were of post-Roman origin, with the exception of the colossal statue already mentioned; for even after the fall of Rome, Alexandria retained a great amount of its importance, rivalling Constantinople for a considerable period as the centre of the Christian faith—as it



Byzantine Ionic Capital.

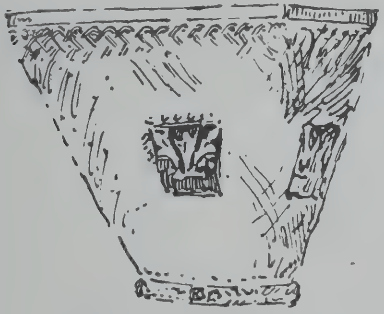
still is the metropolis, if there be one, of the Coptic branch thereof. Thus the mere presence of Roman bricks regularly built up in walls, and of Roman masonry, can be taken as definite evidence only that the work was *not* carried out *before* the advent of the Romans. On the other hand, such evidence as there is of architectural work during the period known as the Byzantine, is wholly to the effect that Alexandria was then, in an architectural sense, completely dominated by the great city on the Bosphorus. This is seen in the Museum, where there are several fine Byzantine columns and isolated capitals, equal in all respects to those of Constantinople, Ravenna, and Venice, and identical in spirit with such as would be found in either of those acknowledged Byzantine centres, of any date between the 6th and 11th centuries of the Christian era. There are, for instance, Ionic columns, with Byzantine dosserets resting on their capitals, carved with the Maltese Cross; but with the carving raised above the general surface and not sunk beneath it, as is almost invariable in Byzantine work elsewhere; but in the capitals themselves the dart replaces the tongue, and the volutes are crude. Perhaps—it is only a suggestion, with no proof to support it—these capitals belonged to one of the earlier Christian buildings, of a date even earlier than that of the foundation of Constantinople; for it is difficult to believe that the Byzantine



Crude Composite Capital (Roman)

style sprang into existence, without evolution by gradual degrees, complete and perfect, with the building of that city and the erection of its great domed churches. And Alexandria, alone of all the great towns of the East, can reasonably be supposed to have been the place where any such gradual change took place—subject, as it was, to many influences itself.

One capital in the Museum alone is indicative of Roman spirit. It is coarsely carved, a crude attempt at the Composite capital, as it might have been evolved from the typical Alexandrian capital, with voluted leaves at the angles, and its echinus has darts cut between the eggs instead of tongues. This, too, may indicate one of the many influences at work out of which Byzantine ornament was developed gradually.



Byzantine Basket Capital.

That it was fully evolved at last, and used exactly as elsewhere, is shown beyond possibility of dispute by the fine basket capitals of typical form of which the Museum contains several examples, with all carved effect obtained by sinking the background below the retained general surface, and with panels worked on the principal faces of the capitals, as it were let into the basket work, and enriched with stiffly designed foliage.

But such work as this, architecturally perfect as it is, may well have been imported, in inspiration at least. That for which Alexandria stands alone is of earlier date and character, late Greek or early Roman as some might call it, but in greater truth Alexandrian, typified by a form of Corinthian capital practically unknown elsewhere, but common in the Egyptian port, as the numerous examples in the Museum indicate without doubt. It is, too, one of the most beautiful forms of capital known, beyond the beauty of that generally called the Corinthian—with little evidence that it was ever used at Corinth—which it resembles in all respects except the use of leaf volutes at the angles in place of tendrils, and the fact that it possesses only one row of acanthus leaves. Thus there surely is at least a doubt whether Alexandria was not the real home of the Order. If so, the name of Alexandrian should be given to it in place of Corinthian, and the Alexandrian form should be accepted as the general type. At least its recognition, and its use with such modifications as might be called for under individual circumstances, is fully justified in modern work which apes the Classic.

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The Design of Tall Chimneys.

THE PRINCIPLES TO BE OBSERVED.

Professor Henry Adams, M.INST.C.E., M.S.A., in a paper read before the Society of Engineers on December 4th, elucidates the scientific principles upon which tall Chimneys should be designed in order to guarantee their stability.

HEIGHT AND SECTIONAL AREA.—Forty-five feet is an ordinary height to serve two steam boilers, but in some towns, as Manchester and Leeds, 90 ft. is the minimum allowed. They are sometimes proportioned for height according to the coal burnt per week of 56 hours, thus—

4 tons per week	= 75 feet high.	50 tons per week	= 150 feet high.
13 ,, ,,	= 100 ,,	100 ,, ,,	= 180 ,,
26 ,, ,,	= 120 ,,	150 ,, ,,	= 200 ,,

Another rule is to make the height of the chimney three times length of boiler + twice distance of furthest boiler to chimney. This allows 1 ft. of height for every foot the gases travel round the boiler and 2 ft. of height for every foot of external flue. A round chimney should not exceed 25 times its internal diameter in height. In many modern power stations Babcock & Wilcox boilers, and Green's economisers, are used, and the chimney shafts are as a rule only from 75 to 100 ft. high and of very large sectional area. For chemical works, or where poisonous fumes are emitted, they should be higher than for ordinary steam boilers.

Simple approximate rules for ascertaining the sectional area or internal diameter are :—

(*a*) 1 sq. ft, area for each cwt. of coal burnt per hour.

(*b*) area $=\frac{1}{10}$ of the total fire-grate area, each flue being $\frac{1}{5}$ of its fire-grate area, and main flue $\frac{1}{8}$ of total.

(*c*) $2\frac{1}{2}$ sq. ins. per indicated horse-power of the engine.

(*d*) If the height of the chimney is taken into account, as of course it should be then on the average—

$$\text{area} = \frac{\text{lb. of coal burnt per hour}}{12\sqrt{\text{height in feet.}}}, \text{ or } \frac{\text{fire-grate area sq. ft.}}{1{\cdot}5\sqrt{\text{height in feet.}}}$$

SHAPE.—In the author's opinion circular chimneys have the best appearance, at least above the pedestal, which is usually square, and from which the circular part springs by broached angles. Octagonal chimneys come next, while square chimneys always look more or less heavy and are only suitable for short stacks of large area, such as are generally used in modern central station work. The circular chimney is most efficient for its area, as it takes the least material and there are no angles in which soot may cling, but with any chimney it is desirable to add 2 ins. all round to the calculated minimum area to allow for friction. Octagonal chimneys require special bricks for the angles in alternate courses, to produce the best work.

WIND PRESSURE.—The comparative efficiency according to the shape of cross section may also be considered from the point of view of obstruction to the wind, that which offers the greatest obstruction requiring the greatest stability or quantity of material apart from other considerations. It is not yet definitely settled what is the pressure of the wind upon a plane surface due to a given velocity, and still less is known of the effect upon a surface inclined to its direction. We shall generally be quite safe, however, if we allow for ordinary purposes a pressure of 56 lb. or ½ cwt. per sq. ft. on a plane surface normal to the direction of the wind, and even half of this may be sufficient in many cases. When we come to fix the value of these figures against an inclined or curved surface we find much difference of opinion and no sufficient experimental evidence.

A formula agreeing closely with Hutton's experiments* is—$P = a\,p\ (\sin\theta)$
$1.84 \cos\theta$
where $P =$ total pressure in lb.
$a =$ area of surface in sq. ft.
$p =$ normal pressure lb. per sq. ft.
$\theta =$ angle of incidence.

and this is the basis of the majority of tables of effective pressures; but Hutton experimented on a surface only 22 sq. ins. area, which was too small to be of much practical value.

Some years ago† the author suggested a variable allowance according to the width and height of the structure, which would cover all cases and be more in accordance with modern experiments. His empirical formula for this purpose is now—

$$\log p = 1{\cdot}125 + 0{\cdot}32 \log h - 0{\cdot}12 \log w$$

where $p =$ ultimate wind pressure in lb. per sq. ft. necessary to be allowed for against a plane surface normal to the wind.
$h =$ height in feet of centre of gravity of surface considered, above ground level.
$w =$ width in feet of part to be taken as one surface.

And when the surface is inclined at θ degrees to the direction of the wind, the ultimate pressure normal to the surface may be taken as $= p \sin\theta$, or its effect in the same direction as the wind $= p \sin^2\theta$.

In the case of a boundary wall the length to consider would be a portion equal to say 1½ times the height, or the width between the buttresses. In the case of a roof the distance from centre to centre of the trusses should be taken, unless the stability of the whole structure be under consideration, when the full length should be taken.

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*See paper by the author on "Wind Pressure on Roofs," read before The Society of Architects, 14th March, 1893.

†See discussion on a paper by R. J. Hutton on "The Stability of Chimney Shafts," Trans. Soc. Eng., 1887.

In the case of a lattice girder bridge 50 per cent. should be added to the actual area offered to the wind and both girders taken.

Theoretically, account should be taken of the effect of the batter in determining the wind pressure on a chimney, but this is so slight that it may usually be omitted.

PRESSURE ON SQUARE CHIMNEY.—A square chimney will give the same resistance whether facing the wind or standing diagonally to its direction, the greater area of the inclined surface and the reduced pressure upon it making the same total as the flat side under the full pressure.

PRESSURE ON CIRCULAR CHIMNEY.—With circular chimneys a very serious difference of opinion exists as to the effective pressure of the wind, the list of multipliers recommended varying from ·5 (Rankine) to ·7854 (Adams).

The author's investigations lead him to adopt $\frac{\pi}{4}$ as the multiplier, which if incorrect is at any rate on the safe side. The area taken for wind pressure in the case of a circular chimney is the diametral vertical plane and no further allowance need be made for suction on the lee side.

PRESSURE ON OCTAGONAL CHIMNEY.—An octagonal chimney has two extreme positions with regard to the wind, viz., when it is acting directly against one face, and when acting directly against one edge. For the former case the author's multiplier would be 0·83 and for the latter 0·82 ; there is not much difference, but the latter co-efficient gives rather the higher result as it is taken against the width over angles.

PRUSSIAN GOVERNMENT RULES.—In April, 1902, the Prussian Government issued regulations for the construction of chimney stacks. Square stacks to be designed for a wind pressure of 25½ lb. per sq. ft. with the centre of pressure at the centre of gravity of diametral vertical plane. Octagonal stacks, 71 per cent. of the above pressure and circular stacks, 67 per cent. (*Engineering Record*).

THICKNESS OF BRICKWORK.—Up to 150 ft. high or 5 ft. inside diameter the top length is generally one brick (9 in.) thick ; above that height or diameter, the top length should be 1½ bricks thick and the thickness should be increased by a 4½ in. set-off at every 20 ft. below the top. The outlet at top, and the throat or internal diameter at each set-off, should be of the calculated size to give the necessary area plus allowance for friction.

BATTER.—If the diameter of the throat is kept uniform and a 4½ in. set-off occurs at every 20 ft., the intermediate portions being of uniform thickness, a batter of 1 in 53·33 will be given, but the London County Council insist on a minimum batter of 1 in 48 = 2½ in. in 10 ft., and besides that it will be requisite in most cases to provide a fire-brick lining for at least the bottom 15 or 20 ft., having a thickness of 4½ in. and a clear space from the outer brickwork of 1½ to 2 in., necessitating a still greater batter.

Chimney Cap.—The chimney cap or cornice, by the London County Council rules, must not project more than the thickness of the brickwork upon which it rests. It may be of cast-iron casings bolted together and filled with brickwork; or of granite or other good weathering stone, the separate blocks being cramped together with galvanized iron cramps, or with an iron hoop sunk into the top and protected with cement; or of brickwork in cement.

Diameter at Base.—There is also an important rule of the London County Council, which says " the width of a shaft at the base, if square on plan must be at least one-tenth, and if circular on plan at least one-twelfth of the total height."

Fire-brick Lining.—The fire-brick lining must be entirely self-supporting and have a clear space behind, to allow for expansion and contraction independently of the main structure. It is therefore necessary to cover the top of the space by an over-sailing course of bricks built out from the inside of the main shaft, protecting the space, but allowing a clearance above the lining of $\frac{1}{8}$ in. for every 5 ft. of its height, to permit of its expansion when heated. The average height of this lining is $\frac{1}{5}$ height of shaft + 10 ft. A common height is 20 ft. and thickness $4\frac{1}{2}$ in.; when of greater height it is necessary to make the lower part 9 in. thick. No air bricks should be inserted in the outer wall, as is sometimes done with the idea of cooling the air space, any such openings being very detrimental to the draught. The only possible inlet for air to the chimney shaft should be through the fire bars or over the surface of the incandescent fuel.

The smoke inspectors of the L.C.C. have lately recommended openings into the chimney shafts near the bottom to reduce the smoke nuisance. The real effect is to dilute the smoke with air before it reaches the chimney top so that it is not so black when expelled, but it does not reduce the actual amount of carbon emitted except so far as it tends to spoil the draught and so to reduce the fuel consumption and boiler efficiency.

Stability.—Having drawn out the vertical section to suit the conditions it will be essential to test the stability by calculation, but this is a somewhat complex matter and requires some preliminary data that will now be dealt with.

Materials and Weight.—The weight of each portion of the shaft, *i.e.*, between each set-off, should be obtained separately so that the figures can be used singly or together. The weight will depend very much upon the material.

Stock bricks and ground stone lime mortar	about	112 lbs. per cub. ft.
Solid machine pressed bricks and lias lime mortar ..	„	126 lbs. „ „
Perforated radial bricks and portland cement mortar	„	100 lbs. „ „

Some consider that cement is too unyielding and that a shaft has greater ultimate stability if it sways slightly in a gale, which they fear the use of cement mortar might prevent. The bond usually adopted is one course of headers to four courses of stretchers, but sometimes tall chimneys are built in English bond, and occasionally in all headers.

HEIGHT.		BOND.
450 ft.	St. Rollox, Glasgow,	Old English.
300 ,,	Johnsons, Greenhithe,	Flemish.
220 ,,	Gosling, Northfleet,	Stretching.
160 ,,	Barkers. Worcester,	Three Stretchers to one Header.
110 ,,	Surrey, Commercial Docks,	All Headers on Circular Face.
100 ,,	Farringdon Street Goods Station,	Patent Radiating Bricks, all Headers on External Face.

Hoop iron galvanized, or painted with cement wash, may be inserted at intervals of 5 ft. in height. The work should not be carried up too quickly, 3 ft. per day being quite sufficient unless in cement.

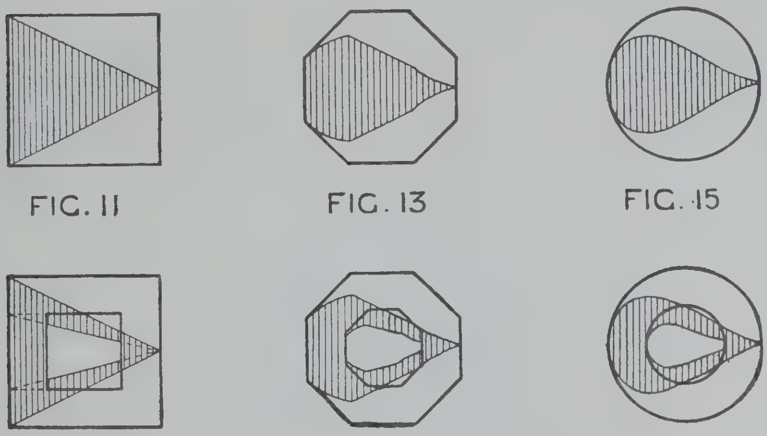
SAFE LOAD ON MATERIAL.—Assuming best workmanship and material the maximum safe load may be taken as follows, being about 50 per cent. higher than would be allowed for live loads or inferior conditions.

	Tons per ft. super. Compression.
Granite	25
Portland and compact limestone	20
Hard York stone	15
Blue brick in cement	12
Stock ,, ,, ...	10
,, ,, lias mortar	8
,, ,, grey lime mortar	6
Cement concrete 6 to 1	9
Deep clay (foundations not less than 10 ft. from surface), gravel and compact earth	3
Made ground rammed in layers	1½

	Tons per ft. super. Tension.
Grey lime mortar (1 to 2)	1.0
Lias lime mortar (1 to 2)	1.5
Portland cement mortar (1 to 3)	2.0

FOUNDATION.—A tall chimney should stand on an independent foundation in order that the settlement, or compression of the soil, may be uniform. When a chimney is built close alongside a boiler house, or within the four walls of a warehouse, it is sometimes placed on an extension of the other foundations and bonded in with other work, but this invariably leads to unequal settlement and subsequent cracks in the brickwork.

PRINCIPLES OF STABILITY.—The principles of stability can best be illustrated by taking a solid square brick pier say 3 ft. square and 30 ft. high, weighing 1 cwt. per cub. ft. The total weight will be $3\times3\times30\times1=270$ cwt., the area of base $3\times3=$ 9 sq. ft., the mean pressure on base $\frac{270}{9}=30$ cwts. per sq. ft. The resultant of the weight of all the parts passes vertically through the centre of gravity of the mass and cuts the centre of the base. If the wind be assumed to blow horizontally against one side the effect will be collected at the centre of the face and act with a leverage of half the height, and the resultant of the two forces will gradually approach the outer edge of the base as the wind pressure increases.



Tall Chimneys
Resistance areas of different sections

FIG. 11 FIG. 13 FIG. 15

FIG. 12 FIG. 14 FIG. 16

Application to Chimney Shafts.—Consideration of the plain brick pier will enable us to deal with complex chimney shafts the more readily. Nearly all the different forms of bed joint can be reduced to a few simple diagrams. These are collected together in Figs. 11 to 16, the shaded part being the resistance area, or measure of effective resistance, of each. Another form of section may occasionally be found, viz., square with two buttresses on each face, the resistance area of which would be found in a similar manner to the preceding, and the centre of gravity would be found experimentally by cutting out the area in drawing paper and suspending it from two points. These shaded portions have been described as resistance areas, although they correspond exactly with the inertia areas for a neutral axis coinciding with one edge. The reason is that in calculation, account is taken of the actual conditions, viz., a uniformly distributed load, and a bending moment producing compression on one side and tension on the other side of a neutral axis passing through the centre of gravity of the section.

The Society of Architects, South African Branch.

THE SOCIAL SIDE.

A very successful soiree was given in the University Hall, Johannesburg, on Saturday evening, October 28th, by The Society of Architects (S.A. Branch), at which a large number of members and their friends enjoyed an excellent musical programme and an evening of social interest.

The main hall was arranged with small tables, at which refreshments were served during the evening.

Amongst those present were Mr. Field (President of the Transvaal Institute), Mr. Robert Howden (President of the Transvaal Association), Mr. and Mrs. G. Burt Andrews, Mr. and Mrs. J. S. Beardwood, Mr. and Mrs. W. Reid, Major Rogers, R.E., Mr. and Miss Gyngel, Mr. and Mrs. D. Ivor Lewis, Mrs. W. A. Harper, Mr. and Mrs. E. J. Wellman, Mr. John Taylor (Town Clerk) and Mrs. Taylor, Messrs. Rietard, Sam Hosken, Alan G. Monsbourgh, and Colonel and Miss Hoogterg (Pretoria).

The Entertainment Committee comprised Mr. E. H. Waugh (Chairman), Mr. and Mrs. G. S. Burt Andrews, Mr. and Mrs. J. F. Beardwood, Miss May Cohen, Mr. S. C. Dowsett, Mr. and Mrs. Robert Howden, Mrs. W. A. Harper, Mr. M. J. Harris, Mrs. D. Ivor Lewis, Mr. G. W. Nicholay, Mr. and Mrs. E. J. Wellman. The Joint Hon. Secretaries were Messrs. D. Ivor Lewis and Alan G. Monsbourgh.

Mr. H. H. Waugh (President of the Branch and Chairman of the Entertainment Committee), welcomed the guests in a brief speech, commenting upon the fact that architects, though seldom before the public, left their work as a memento of themselves, fully exposed to the gaze of the public. He followed by tracing briefly the history of architecture in various countries and its progress in South Africa, emphasizing the way in which local architects were rising to the demands made upon them.

A number of clever portraits and sketches lent by Mr. Gyngel were on view, also some interesting architectural plans and sketches lent by Messrs. Baker and Fleming, Schaerer, Stuckey, Hawke and McKinley, Sinclair, Hodder, Treeby, Lavenstein, and the Town Engineer's Department. One of the most interesting was a plan of the new Market Hall, Newtown, which is to be an eighth of a mile long and to cover 2½ acres.

Messrs. Mackay's Band provided an enjoyable programme of instrumental music, and an excellent concert was given by a number of artistes, amongst whom was Mrs. D. Ivor Lewis, the wife of the Hon. Secretary of the Branch.

Mr. Edward H. Waugh,

President of the South African Branch.

Mr. Edward Henry Waugh, whose portrait is reproduced on this page is, says *The African Architect*, one of Johannesburg's busiest officials, holding, as he does, the important positions of Building Surveyor and Town Valuer, besides having under his supervision the architectural section of the Town Engineer's Department. He came to South Africa from Melbourne in 1898, when he entered the service of the Cape Town Corporation in the Building Surveyor's Department. Subsequently he went to England and studied at the King's College of Architecture (London) under Professor Elsey Smith, and on returning to this country was appointed Building Surveyor to the Woodstock Corporation. At a later date he rejoined the Cape Town Corporation's service as Assistant Building Surveyor, and in 1902 advanced to the important appointment of Building Surveyor of Johannesburg. In 1904, Mr. Waugh was given charge of the house drainage work in connection with the new water carriage system then being initiated; and in 1908, owing to a rearrangement of the offices, the architectural section of the departments was added to his duties. It is interesting to note that he has passed through his hands over twenty-four thousand plans since he entered the service of the Johannesburg Municipality. In the architectural section, a number of large works have required his attention. For instance, there are those of the City Markets, the plans of which were designed in his office. These buildings cover an area of fully two and a half acres, the length of the main building being over one-eighth of a mile. It remains to be added that Mr. Waugh is a member of the Royal Sanitary Institute; he is a member of the Council of the South African Institute of Valuers; also a member of the Association of Transvaal Architects; a member of the Plumbers' Board; and examiner at the School of Technology in architectural and building subjects. In social life he is a popular citizen, and he is to be heartily congratulated upon his new appointment as President of the South African Branch of The Society of Architects, for which he had acted for many years as Honorary Secretary.

Nonconformist Architecture.

In an article on "Nonconformity and Architecture" in *T. P.'s Weekly*, Mr. Martin Briggs deplores the scarcity of literature dealing with the building of Nonconformist places of Worship and the conservatism of architects in the matter.

He may be correct in his facts, but we do not quite follow him in his contention that "though one might collect whole shelves of books on cottage building, and even a fair display of literature about garages and pigsties, it is most difficult to find any useful hints for those who may be interested in the building of a Nonconformist place of Worship."

We should not ourselves have sought inspiration from the source suggested nor do we altogether agree when he says "that for the great majority of the architectural profession Nonconformist churches have no interest whatever."

Mr. Briggs dates the demand for these places of worship from the seventeenth century, and to the eighteenth, a change from the humble meeting house to the more ambitious building of the Georgian period in which he finds features associated in common with some of Wren's City Churches.

The Gothic Revival, and its complete displacement of its predecessor, caused its leaders to consider the suitability of "Gothic" for their purposes. They called their places of worship "churches," and claimed a share in that national architecture of the Middle Ages which had been so successfully revived as to become symbolical of religious buildings. Indeed, a church which was *not* Gothic in 1870 could hardly be regarded as a church at all. Yet, for some strange reason, Nonconformist architecture from that point seems to have floundered and lost its way completely. The change was too sudden and too thoughtless. It should have occurred to those eminent divines that a fifteenth century church was primarily intended for the celebration of the Mass, and not for congregational worship or for preaching; and that the rich carving and decoration of these ancient fanes represented years of patient labour, and, in modern terms, a considerable outlay. There is nothing in simple Gothic architecture diametrically opposed to a single form of worship, but it is possible to ape Gothic architecture, as its earlier revivers did, and the result is a sorry affair.

With the craze for "Gothic" came necessarily the question of finance. It seldom happened that much more than the funds to provide the bare accommodation was available, and what would have ensured an excellent building—Gothic or Classic—of a simple design, became insignificant when spires and tracery were also wanted. So a new sort of architect came into being who specialized in shoddy carving and shoddy material. Yet, Nonconformity failed to create a new style of architecture, for the product was unworthy of its high purpose. Architects are conservative by nature and hesitate to approach so thankless a problem as setting right this wrong. Nonconformists are too anxious in many cases for a showy church, too regardless of what good building involves, and of what is suitable for their own needs in worship.

Architects decline to enter their competitions because in most cases no skilled advice is considered necessary by an unqualified committee on plans which have taken weeks of skilled work. There are, of course, exceptions, and one sees here and there a new type of Nonconformist church coming into being which bears witness to a tradition being slowly and gradually evolved on grounds of practical necessity. It has great possibilities, and some day, perhaps, Nonconformists may live to glory in an architecture which they may be proud of and which they may claim as their own.

Registration of Architects.

Grading the Profession.

Pontifex, C.E., in a letter to *The Architect*, says many professions and trades already possess registration, from doctors and lawyers down to chimney-sweepers, so that the practical operation of different forms of registration can and ought to be well studied by architects before placing themselves under a rule they may afterwards regret. He suggests that the qualifications, examination, and fee for placing on the register should be light, and there should be several degrees depending on heavier examinations, greater practice, etc., so that the highest degree would include all, or nearly all, the F.R.I.B.A., and the lowest assistants and others who had worked and studied for, say, two years. Some such arrangement would really and not only professingly protect the public from mixing great architects with what may be called small artistic builders, and would be no hardship on anyone, since those excluded would be necessarily incompetent, the dignity and contentment of the profession would be enhanced, and by striving to attain high degrees, or high degrees being given as a mark of long practice and many and great works, credit and remuneration being justly distributed, the superior architects would become more and more learned and specialists in their art, and architecture in consequence would advance.

Reviews.

The House and its Equipment. Edited by Lawrence Weaver. The Country Life Library of Architecture, 20, Tavistock Place, Covent Garden, W.C. Price 15*s.*

Many books have been published during recent years which have dealt with the small English house, but few have been so entirely delightful to the general reader as that which has now appeared under the editorship of Mr. Lawrence Weaver. Its appeal, however, is rather to the general public than to the trained architect, for it consists of a number of isolated articles, loosely strung together and dealing almost wholly with the equipment of the house and not with the house itself. Thus the title of the book does not appear to have been particularly well chosen. "The domestic architecture of to-day" is dismissed with a short article of five pages, contributed by Mr. Ernest Newton, A.R.A., and while perhaps nobody could have dealt with the subject better than he, it is unquestionable that his treatment of it is inadequate. The three succeeding articles on "Colour in the House," "Plaster Work" and "Wood Panelling," all by well-known men, occupy an aggregate of ten pages more, including their illustrations, while the remaining 190 pages are devoted to accessories such as fireplaces, bookcases, furniture and floor coverings, and even to external adjuncts such as water supply, sewage disposal, lightning conductors, and garden designing. These, too, are arranged in a most haphazard fashion, apparently just as they happen to have been published in *Country Life.* The article on water supply, for instance, occupies the space between pages 78 and 83, while water-power installations are dealt with between pages 113 to 115, the intervening space being given up to articles on kitchens and sculleries, refrigeration, an up-to-date game room, a bath room, lighting systems and electric lighting, and the cost of electric working. Could a more hopeless jumble be possibly imagined? And yet, these various articles are so delightful and the whole book is so well produced and beautifully illustrated as to render it pleasant to read and most useful for reference. In this last respect, the index becomes the primary concern and it certainly might have been better done. Anyone requiring to look up "iron-work," for instance, would naturally look for the word "iron" in the index, but he would not find it there. Instead of that, he would find such an entry as this, "Melbourne, iron garden-house at, 173." In the ordinary way the person seeking information about an iron garden-house, would not turn to the word "Melbourne" in the index; but it is compiled throughout on these extraordinary lines.

Underground Jerusalem: Discoveries on the Hill of Ophel (1909-11). By H. V. (of the Ecole Biblique et Archéologique in Jerusalem). Specially translated from the French for the *Field*, and fully illustrated with photographs, plans, and coloured plates. London: Horace Cox, Breams Buildings, E.C. Price 7*s.* 6*d.*

Bearing in mind the interest which was evoked early this year regarding alleged desecrations which were supposed to have taken place somewhere near the Mosque of Omar in Jerusalem, it is of great interest to have, in volume form, authentic records of the excavations which were made at that time. Needless to say, there was no vandalism committed whatever, nor desecrations of sacred precincts, but a great deal of careful tunnelling has been done and certain important discoveries have been made. Consequently those who are interested in antiquarian research rather than architectural evolution will certainly be rewarded by a perusal of the well prepared book which has now been added to our library, excellently translated from the original French, and illustrated by photographs and drawings, some of which are in colour, of the more important finds, which consist mostly of pottery in the form of water jars and basins. These are crudely ornamented in a manner common even at the present time amongst the Arabs, with here and there a suggestion of plaited straw. Besides these earthenware fragments, a few archaic idols were also found at Mount Ophel. One of the heads is of Egyptian type, but the others have a head-dress closely resembling that of the modern nun.

Calculation of Columns. A practical application of theory. By Theodor Nielsen. London: E. & F. N. Spon. 4*s.* 6*d.* net; cloth, pp. 36.

This is a purely technical work upon the calculation of the strength of columns. The origin of the various formulæ is explained, but we have seen clearer text-books for the ordinary practitioner; it, is, however, useful to anyone making a special study of columns. The text is accompanied by curve diagrams upon which the results of experiments are plotted.

The Liverpool Architectural Sketch Book. Vol. II., 1911. *The Architectural Review*, Caxton House, Westminster, S.W.

A year ago the publication of a series of measured drawings and designs made by students of the Architectural School of Liverpool University came as a surprise. The issue of a Second Volume this year is, perhaps, even more surprising, for the quality of the work exceeds anything that could have been anticipated, high though the standard was which was set a year ago, and it must be most satisfactory to Professor Reilly to find that his young students can do such good work. He puts the matter well in his introduction, in which he suggests that it might be asked how it is that the tentative efforts of students who, in the majority of cases, are not of more than two years' standing, can be of any interest or value to the profession at large. His answer is two-fold. First, as he says, the measured drawings, of which a considerable number are published to a comparatively large scale, are an end in themselves, measured drawings of great buildings made from actual surveys being a mine in which the richest may be glad to dig. As to the students' own designs, he considers his answer to be not less adequate. He admits that if they were the production of unrelated students, each following his own individual taste, they would have little interest except to their authors, but he claims that at Liverpool the reverse is the case. The work of each is directed along definite lines from the commencement, in such a manner that his own designs partake of the nature of invention based on research. It is in the exemplification of this principle that the value of the book chiefly lies. The experienced student of architecture can trace in most of the designs the sources from which they have been inspired, while recognizing that originality has not been cramped by too close an adherence to type, but is rather encouraged by sympathetic instruction and assistance. Yet, for all this, and acknowledging fullyProfessor Reilly's claim, and the excellent work which is being done by his students, it may well be asked whether there is not at the Liverpool School too great a tendency to stereotype; whether there is not too great an insistance upon the study of the Classic and the Renaissance to the utter neglect of the Gothic and of the problem of the small house, school or library; whether, in fact, Liverpool is not training a few men to design for the rich, while neglecting to produce architects who are suited to the real requirements of the country. It can hardly be that every single student who enters the Liverpool School is naturally gifted in the same direction. There seems to be little effort made to discover the trend of genius. All are forced one way, when one would naturally expect that there must be many who could be better developed in another or in one of several others, and one is tempted to ask what Professor Reilly does with such when he discovers them amongst his students; whether he retains them and makes them bad copyists, leading to a hopeless future without clientèle, or whether he passes them on to other schools where their natural taste for, say, domestic or ecclesiastical designing is allowed fair play.

Should we stop Teaching Art? By C. R. Ashbee. London: B. P. Batsford, 94, High Holborn. Price 3*s.* 6*d.* net.

A book whose title takes the form of a question is rarely written in a generous spirit. One answer only is suggested, nay, argued to its extremity; and all points of view, except those of the author, are either ignored or so presented as to belittle them. The present volume is no exception to this rule. In a condensed form it would have made an admirable Paper, for reading, say, before the Society of Arts, with the object of provoking discussion and of leading to an understanding between the advocates of differing forms of Art teaching, or of none; but as a book its sole value lies in the fact that it embodies the strong convictions of a forceful personality.

A History of Architectural Development, in three volumes. Vol. III., The Renaissance in Italy, France and England. By Far. Simpson, Professor of Architecture in the University of London, etc. With 268 Illustrations. Longmans, Green & Co. Price, 21*s*.

Many have essayed to write the history of architecture, and of these one only, Fergusson, compiled a great standard work at the cost of a lifetime of study. Without his labours, his wonderful exactitude and also his great mistakes, we should know far less of the past of the art we practice than we do, and such a book as the one now under review would have been impossible of achievement. This is only what Prof. Simpson would say himself, and does not in the least reduce the value of his own most important contribution to architectural literature, which is as scholarly as anything that Fergusson ever did, and far more readable, concise and accurate, including much that has only been learnt comparatively recently, and giving expression to considered views upon many a point which was hardly thought of in Fergusson's days. This much may be said of the book as a whole, now happily completed after ten years of labour have been expended on it; but it may be added with regard to the third and concluding volume, which has recently been issued, that it is the best exposition of the Renaissance in architecture which has yet appeared in the English language. True it is, that only Italy, France and England are treated of, and that one would have liked to have had Spain and Belgium added, and perhaps Germany also, but the countries dealt with are those in which the style flourished most significantly, and it is in them that the buildings were erected which serve mostly as models for us at the present day. Thus something is to be said for the limitation, and it is to be regretted the less because what has been done, has been done so excellently. The lesson of the book, applicable as fully, or more so, to-day as when the words were written, are well summed up in Wren's dictum, quoted at the opening of Chapter XII., that, " Little knacks are in great vogue: but building certainly ought to have the attribute of eternal, and therefore the only thing uncapable of new fashions." It is a great truth, and books like this one serve to make it understood.

Architects' Difficulties in India.

THE NEED OF TRAINED MEN.

Last year, Mr. J. Begg, F.R.I.B.A., Consulting Architect to the Government of India, read a paper before the East Indian Association, advocating the establishment of an Indian School for the study of architecture, and Mr. H. A. Crouch, F.R.I.B.A., Consulting Architect to the Government of Bengal, in his Annual Report states that the lack of trained architectural assistance is perhaps the chief difficulty with which an architect in India has to cope. Architectural assistants are not produced by the Engineering Colleges or in an Engineer's office and although the Bombay School of Art with its architectural curriculum is doing good work, at the present time useful assistants can only be obtained by the patient personal and continual instruction of the architect by whom they are employed. Of tracers there are legion and men content to remain tracers all their lives. The dearth of architectural assistants can scarcely be wondered at when one considers the small number of trained architects who have practised or are practising in India. He endorses Mr. Begg's suggestion with regard to architectural pupilage contained in his last report and hopes that by this means in course of time, the status, intelligence and standard of usefulness of the architectural assistant will be higher than it is at present. These, says *Indian Engineering*, are remarks the Government of India should carefully weigh, and further, should be pressed home to notice in the legislative assemblies by such as are interested in the immediate furtherance of technical training in that country. A Chair of Architecture ought to be established without delay at Roorkee ,and the education of students followed on exactly the same lines as now pursued at Home where lads enter the architectural school direct from the public schools, or in a few instances after a short University career. They spend two years in the architectural school, then two years in pupilage with an architect in connection with which they attend evening classes, and they are then qualified to practise as architects, some few putting in a fifth year at the architectural school to take the more advanced courses. If this were done in India, the period of pupilage could easily be arranged with one, or other, of the Government architects.

The report shows what an immense improvement there has been in the character of public buildings in India since their design has fallen into the hands of trained architects. And it is a call upon that country to produce the *personnel* wherewith to form the nucleus of a future body of architects. India possesses the material of which architects are made, and a pressing call should be made without delay for equipping one or more of the colleges for the teaching of the subject.

Royal Sanitary Institute Congress.

On the invitation of the Royal Sanitary Institute, The Society of Architects have appointed Mr. W. R. Braithwaite of Leeds and Mr. A. J. Penty of York, as the Official Delegates of the Society at the Conference to be held in York next July.

Architectural Examinations.

It is a matter of some surprise that in a profession of such long standing as architecture, the courses of study have not yet been standardized, and that the highest degrees may still be obtained in various ways. We think it would be more satisfactory, on the whole, if entrance to the profession would now be made to depend, as in other professions like medicine and engineering, on a single defined course in a college and on practical work. The profession would then be more homogeneous, and the door would be closed to any suspicion that a member was not fully qualified.—*Indian Engineering.*

Building Acts and Registration.

Commenting on the Act for the Improvement of Calcutta, *Indian Engineering* suggests that in a city of such heterogeneous elements, each with its own ideal of what constitutes good hygiene, it will be difficult to frame laws that will escape the charge of being too lax, levelled by one section of the community, while also escaping the charge of being Draconian levelled by another section. But this difficulty might be met by first defining what is to be considered the native section of the city and what the European and then arranging a different standard for each. The registration of all persons in the building profession has also now become as essential as the provision of building bye-laws. Incompetent persons should no longer be allowed to act as architects and engineers, since it is easy for such to pay for and obtain a design by a professional that will in all respects meet the requirements of any Building Act, while it in no wise follows that should they themselves be permitted under the law to execute the design, considerable departure from its provisions may not follow. Such a consequence is unfair to the public who afterwards occupy the building in the false belief that it is in all respects safe and sanitary when it may be neither. It is also extremely unfair to the certificated profession whose legitimate work has been filched, and above all unfair to the architect whose design has been used but not followed out to the letter. The mischief that quack doctors do is immediate, and at once attracts notice, but the mischief done by a quack builder is less easy of detection and its effects may not be noticed for a long time. But it is none the less real and should be condemned as strongly.

New Parliament Buildings, Winnipeg.

The Government of the Province of Manitoba are advertising for plans for the new Parliament Buildings to be erected in the City of Winnipeg.

Copies of the conditions of the Competition may be obtained on application to the High Commissioner for Canada, 17, Victoria Street, S.W.

King Edward Memorial, Liverpool.

The Liverpool Corporation have adopted the report of the Finance Committee, involving alterations to the podium of S. George's Hall, and the placing of an Equestrian Statue of King Edward on the pedestal nearest to Lime Street. The Society of Architects during the last stages of the discussion memorialized the Liverpool Corporation, questioning the desirability of the form and position of the proposed Memorial and deprecating any structural alteration to the Podium.

Architectural Unity.

It is gratifying to learn, says *Indian Engineering*, that the architectural profession at home has taken a strong step towards unity by proposing to amalgamate into one the bodies of the Royal Institute of British Architects and of The Society of Architects. The latter body has, in fact, practically consented to merge itself in the former after a separate corporate existence of 27 years, during which time it has built up for itself a strong position with a membership of 1,076. It possesses a building of its own with a good library, holds its own examinations for membership, and holds meetings for the reading and discussion of papers. The Society now consents to merge itself into the older Institute, its members and students being absorbed into the corresponding classes of The Institute. The only point at present causing some delay in the effecting of the amalgamation is the existence of a legal flaw in the agreement, discovered when the latter was on the eve of ratification. To overcome this, an application has to be made to the Privy Council for a supplemental charter conferring the necessary powers to enter into the proposed agreement. A standing want in the architectural profession at home is a formal code of ethics in connection with professional etiquette. The subject has for some time been engaging the attention of The Society of Architects; and it is hoped that when the union between the Society and the Institute has been completed, such a code will also be completed and brought into effect.

Students' Quarterly Competitions.

It is proposed to initiate a series of Quarterly Competitions among the Students of the Society, alternatively in design, essay-writing, and measured drawings. A prize of the value of £3 3*s.* 0*d.*, will be given in each competition, and a second prize of the value of £2 2*s.* 0*d.*, if more than ten Students compete, and the work done is of sufficient merit. If the same competitor is placed first in each competition the Council will consider the advisability of a special additional award.

Candidates for the Students' Competitions shall be persons whose names are on the Register of Students of the Society, and who have paid their subscriptions for the current year.

The Drawings, upon which this, the first of the four Competitions, will be determined, must be delivered, carriage paid, at the Society's Offices, 28, Bedford Square, London, W.C., not later than 6 p.m. on the twenty-fifth day of March, 1912, without name, motto, or mark of identification, and must have attached to one of the drawings a plain sealed envelope containing the competitor's signature and address appended to a declaration that the drawings are the candidate's unaided work.

The plans will be numbered as received, and a corresponding number will be placed on the envelope, which will not be opened until after the award has been made.

The Council will not be responsible for any loss or damage that may occur to any drawing or document submitted in connection with this competition, though every reasonable care will be taken of the same.

The Council reserve the right of exhibiting or reproducing the drawings, and their decision on any matter arising is to be final.

A candidate who does not adhere to the conditions and instructions in every particular, will be disqualified.

First Subject. Quarter ending March 25th, 1912.

A Cinematograph Theatre to seat 500 persons with gallery.

ACCOMMODATION.—Tea room and lounge, lavatories and cloak rooms, entrance hall, pay box, operator's room, manager's office.

There should be a small stage with proscenium so that the hall could be adapted for concerts, also artists' entrance and retiring rooms.

SITE.—A level corner site to two streets.

Drawings required.

A set of competition drawings to ⅛ in. scale, comprising plans of each floor internal fittings to be shown, and drainage and heating. Elevations of each front and at least two sections, and one sheet of half-inch details.

The drawings must be executed on white paper, imperial size, and mounted on strainers or millboard.

Style, Materials and Cost.

These are left to the competitors, but stucco for external elevations is prohibited. The total estimated cost and method of arriving at it, must be shown on one of the drawings.

Travelling Studentship and Architectural Scholarship.

Particulars of these Competitions were published in our last Issue (see pages 65—70 *ante*). Reprints may be obtained from the Secretary.

Students' Social Evening.

The Committee of the Students' Section are organizing a Students' Social Evening, to be held at the Society's Rooms, 28, Bedford Square, W.C., on Thursday, January 18th, 1912, at 8 p.m.

The object of the meeting is to afford Students and their friends an opportunity for social intercourse and incidentally to widen the scope and utility of the Section by inviting criticisms on the present methods and suggestions for amendment or developments in the future.

An excellent Musical Entertainment is being arranged, smoking will be permitted, and light refreshments provided.

The Chair will be occupied by Mr. H. V. Milnes-Emerson, A.R.I.B.A., the Chairman of the Students' Section.

The Hon. Secretary of the Section, Mr. C. H. Hudson, 12, Almeida Street, Islington, N., will be glad to hear from any Student who will volunteer to take part in the Musical Programme.

Registration.

The Guardians of the Poor for the Hamlet of Mile End Old Town in advertising for an architect, make it a condition that candidates must be Registered Architects, fully qualified to carry out an architect's duties, but they do not define "Registration."

Room in Rhodesia.

The capital of Rhodesia, says the *South African Architect,* has unquestionably taken firm root, and within the last two or three years has made rapid strides. The centre of a vast and fertile country, the future of Salisbury promises to be exceptionally bright. Though at present the only centre where it is possible for an architect to carry on his profession, there are smaller towns which are just emerging from the mining camp stage, and which, in the course of a few years, should prove lucrative fields wherein the younger members of the profession should find ample scope for their abilities.

Gift to the University of London.

A gentleman who desires for the present to remain anonymous, has offered to erect at University College "the buildings for (*a*) the combined School of Architecture (resulting from the amalgamation of the schools at present separately conducted at University College and King's College), together with the following :—so far as a sum of £30,000 will suffice—viz., (*b*) Studios for the teaching of Sculpture and the rearrangement of the School of Fine Art, and (*c*) the Department of Applied Statistics, including the Laboratory of Eugenics."

The donor must, for the present, remain unknown, but he is a person with a keen interest in architecture who desires "to see the completion of one of the most beautiful buildings in London." The new buildings are to be erected at the north-west of the present building.

The gift is accepted with gratitude by the Senate, subject to the formal submission of the matter to the Academic Council, from an educational standpoint, and to the Finance Committee from other aspects. The new buildings will be in keeping with the existing main block, and will occupy a site slightly recessed from, but on the frontage of, Gower Street. With the new Chemical Laboratories, which are to be built on the north side of the University College property, the premises will, in the near future, form a very important and extensive block, the architectural character of which will be of a notable kind.

Meetings and other Fixtures.

1912.

Jan. 10th. The Society of Architects Masonic Lodge 3244. Liverpool Street Hotel. 5 p.m.

,, 11th. Committees, Council and Ordinary Meetings. Paper by John Darch, F.S.I., M.R.SAN.INST., on "Illumination as a Study for Architects." 8 p.m.

,, 18th. Students' Social Evening. 8 p.m.

,, 25th. Interim Committees.

Feb. 8th. Committees, Council and Ordinary Meetings. Paper by E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President), on "Housing." 8 p.m.

,, 22nd. Interim Committees.

Mar. 7th. Committees, Council and Ordinary Meetings. Paper by A. Alban H. Scott (Member of Council), on "The Testing of Materials." 8 p.m.

,, 11th. Examination Entries close.

,, 13th. The Society of Architects Masonic Lodge 3244. Liverpool Street Hotel. 5 p.m.

,, 21st. Interim Committees.

,, 25th. Last day for submitting Students' Quarterly Competition drawings.

April 2nd, 3rd, 4th. Examinations for Membership.

,, 5th to 8th. Easter Vacation.

,, 11th. Committees, Council and Ordinary Meetings. Discussion on "The Ethics of Architectural Practice," to be opened by the Secretary. 8 p.m.

,, 25th. Interim Committees.

May 1st. Last day for submitting Travelling Studentship Competition Drawings.

,, 8th. The Society of Architects Masonic Lodge 3244. Liverpool Street Hotel. 5 p.m.

,, 9th. Committees, Council and Ordinary Meetings. Subject of paper to be announced.

,, 25th to 27th. Whitsuntide Vacation.

Sept. 5th. Council Meeting. House List, etc.

,, 9th. Examination Entries Close.

,, 30th. Last day for submitting Scholarship Measured Drawings.

Oct. 1st, 2nd, 3rd. Examinations for Membership.

,, 3rd. Council Meeting.

,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

Mainly about Members.

We regret to announce the death of WALTER STAIR, of Chingford Essex, and 9, Queen Victoria Street, E.C., who was elected a Member of the Society in 1900. He had been in practice as an architect for thirty years, and also held the appointment of Surveyor to the Chingford Urban District Council.

Cottage Houses are in course of erection at Chatham for the Medway Board of Guardians. The architect is MR. GEORGE E. BOND, J.P., Rochester.

The late MR. HENRY CRUTCHLEY, of The Towers, St. John's, Wakefield, Architect and Surveyor, left estate of the value of £10,917.

MR. GEORGE P. ALLEN has removed his offices from Dacre House, Arundel Street, Strand, where he has been in practice for many years, to 32, Craven Street, Charing Cross, London, W.C.

To meet the changing Architectural Examination requirements, MR. G. A. T. MIDDLETON, is opening a Studio at 19, Craven Street, Strand, W.C., for personal instruction in architecture.

A new Council School, in Cowley Road, Uxbridge, has been formally opened. The contract price was £5,179. The plans were prepared by MR. H. G. CROTHALL, Architect to the Middlesex Education Committee.

Messrs Rake & Cogswell of Portsmouth have dissolved partnership, and MR. A. E. COGSWELL is carrying on the practice in which he has been engaged for many years at the same address, Prudential Buildings, Portsmouth.

MESSRS. THOMAS WALLIS and J. A. BOWDEN'S Design was placed second in the Marylebone Town Hall Competition by the Assessor, Mr. Henry J. Hare, F.R.I.B.A. There were over 180 designs submitted.

MR. GEORGE KENSHOLE, of Bargoed, is the Architect for the new Police Court, Bargoed, which has been erected at a cost of £2,300. The Court Room will seat 150 persons.

The " Church of the Transfiguration " at Parkstone, was dedicated recently, and has been erected at a cost of about £800. The Architect for the work was MR. H. KENDALL, of Poole, and the seating accommodation of the Church is for 240 people.

MR. JOHN TODD, the District Surveyor of the East District of the City, has presented the City Corporation, for the Guildhall Museum, with a series of photographs, taken by himself, of buildings about to be demolished in his district.

The contract for the erection of a new Church at Wrexham has been entered into to cost £2,510. This is the second church which has been built for the Church Extension Committee, who, during the last three years, have also built the new

Church House and School Church. Messrs. Prothero, PHILLOTT, and Barnard, Cheltenham, are the architects for the scheme, which has involved an expenditure of some £16,000.

In the limited Competition recently held for the Sheffield, Woodseats U.M. Church, MESSRS. GEORGE BAINES & SON, Architects, 5, Clement's Inn, Strand, London, W.C., were successful. They are also the architects of the new Church and Schools about to be erected at the corner of Bourne Hill Road and New Road, Southgate, N. The buildings are designed in a late period of Gothic freely treated, and embrace a church accommodating about 500 persons and commodious school premises. Externally the buildings will be faced with red brick.

The new Llanthewy Road Baptist Church will be built on the adjoining site to that already occupied by school buildings. The main features of the plan are a centre and two side aisles, and a semi-circular baptistery at the north end; there are two transepts, one occupied as an organ chamber. The seating accommodation is for 500; there are spacious classrooms and an assembly hall on the basement. The proposed outlay is £5,000 including tower and spire. The architect is MR. CHAS. E. COMPTON, of Messrs. Habershon, Fawckner & Co., 41, High Street, Newport.

All the new Schools of the Glamorgan Education Committee are ventilated on the Natural system, with low pressure hot water heating, scholars free-arm slate-boards being provided in the dadoes of all schools. Tenders for several schools have just been accepted, including a Three Department School at Bridgend, to cost £10,599; a new Boys' School at Abertudur, at a cost of £5,172 7*s.* 4*d*; a new Mixed School at Brynmenin, at a cost of £4,132; re-modelling Corvelly Council School, at a cost of £1,784; also re-modelling Gilfach Fargoed Boys' School, at a cost of £1,280. The whole of the work is carried out from plans prepared by and under the supervision of MR. D. PUGH-JONES, the County Architect, Cardiff.

The Arthur Hill Memorial Baths at Reading, recently opened, were designed by and carried out under the supervision of MR. C. B. WILLCOCKS, Architect, of Willstead, Caversham Heights. The exterior is faced with 2 in. Daneshill bricks with box ground Bath stone dressings. The roof is covered with Brewerton's (irregular Old English) tiles. There is a large entrance hall with pay office and superintendent's office. The swimming bath has an area of 30 ft. by 90 ft., and is lined with terazzo and white glazed tiles. It has a depth at the shallow end of 3 ft. 3 in., and at the deep end of 6 ft. 3 in. The walls are of red brick above a glazed brick dado. There are 50 dressing boxes over which are galleries accommodating 180 spectators, while the gangways round the water provide standing room for 120. The floors and staircase and the gangways are constructed of reinforced concrete (fireproof) on the Wells system, by Messrs. Stuart's Granolithic Co., Ltd. Near the entrance to the swimming bath is a cold shower bath. On the first floor are six private slipper baths with waiting hall and attendant's room. In the basement is a heating chamber and the establishment laundry.

Advertisements in the Journal.

Members are reminded that they can considerably enhance the value of the *Journal* as a source of revenue to the Society, by mentioning the publication in communicating with the firms whose advertisement appears therein. By doing so the members make the *Journal* known as a useful medium between the producer and the consumer.

Papers for Session, 1911-12.

The following arrangements have been made for the Session :—

1912.	
Jan. 11th.	"Illumination as a Study for Architects." By John Darch, F.S.I., M.R.SAN.INST.
Feb. 8th.	"Housing." By E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President). ;
Mar. 7th.	"The Testing of Materials." By A. Alban H. Scott (Member of Council).
April 11th.	Discussion on "The Ethics of Architectural Practice." To be opened by the Secretary.
May 9th.	Subject to be announced.

Ordinary Meeting.

The Third Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, January 11th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Paper on "Illumination as a Study for Architects." By Mr. John Darch, F.S.I.

Light refreshments will be served after the meeting.

The late Mr. D. G. Driver.

We understand that a Fund is being raised, which will be vested in Trustees, for the benefit of the widow and the children of the late Mr. D. G. Driver, whose services in the cause of architectural education and the interests of the A.A. have been of such value to the profession.

The appeal comes with peculiar force at a season when we derive the greatest amount of pleasure by conferring happiness on others, and if there are any members of the Society who would like to associate themselves with those who are making themselves responsible for the future happiness and welfare of the children, we shall be glad to become the medium of forwarding donations to the proper quarter.

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

The Architectural Profession at Home.

The presidential address of Mr. Bond to The Society of Architects shows forcibly, says *Indian Engineering*, how necessary it was, even thus late in the day, to reduce the profession to something like standardization. The country is overrun by architects who have had no more training than a pupilage in an architect's office and who are now living practically upon the technical skill of a younger generation who have done the full educational course of a modern day architect. The position of these juniors is unfortunate in the extreme, as they are ill-paid, are compelled to do the most responsible work in the offices and to efface themselves when their work calls for any notice. The registration bill, which is now under consideration by the Royal Institute and The Society of Architects jointly, is naturally strongly supported by this qualified junior body and as strongly opposed by the unqualified seniors, since its first effect will be to prevent any further addition to the ranks of the unqualified, and thus automatically discredit such as are in practice. The great numbers of incompetent men in the profession is keeping down wages with the result that those who are not incompetent are driven to accept remuneration far below their merits, and in fact no higher than that of an ordinary labourer. The President states it as his experience that the unqualified are the first to set up in independent careers because they have been unable to hold for any length of time the positions of assistants, and once they do this they are driven by necessity to use every device, many quite unprofessional to maintain themselves. He adds that there are even at the present time probably some thousands of young men in the United Kingdom serving their articles, not an eighth of whom will ever attempt to pass any qualifying examination. It is truly surprising that so important a profession as this has been allowed to continue so long in this unsatisfactory state when others, such as medicine and engineering, were reformed long ago.

Proceedings.

THE Third Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, January 11th, 1912, at 8 p.m.

Mr. G. A. T. Middleton, A.R.I.B.A. (Past Vice-President), having taken the Chair, in the unavoidable absence of the President, it was resolved that the minutes of the previous Ordinary Meeting, having been printed in the Journal, be taken as read. The minutes were then confirmed and signed.

Ten nominations for membership and five for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Burns. James,	5, Birley Street, Blackpool.
Dean. William Stanley,	Deanholme, Ipswich Rd., Bournemouth.
Donnelly. Robert,	19, Nassau Street, Dublin.
Ellis. Theodore Moorhouse,	24, Boscastle Road, London, N.W.
Fogg. Thomas Holt, F.S.I.,	7, Market Place, Chippenham.
Jones. David John,	Brynlluest, Port Talbot.
Levie. Daniel Andrew,	The Island, Rochestown, Co. Cork.
Matthews. Frederick John,	3, Osbaldeston Road, Stoke Newington.
Peacock. Thomas Reid,	76, De Salaberry Street, Quebec.
Sheehy. Brian Edward FitzGerald,	57, George Street, Limerick.

As Students :—

Abbott. Albert Leigh,	26, Mowbray Road, Upper Norwood, S.E.
Butt. Donald Henry,	Springfield, Stonehouse, Gloucestershire.
Clemes. Francis,	1, Ramsbury Road, St. Albans.
Elkins. Charles Henry,	20, Culver Road, Winchester.
Evershed. Sydney Fritz,	c/o Law & Harris, 1, Sheep Street, Northhampton.
George. Alfred Stephen,	Linden House, Stroud Road, Gloucester.
Gower. Lawford Raymond,	1, Caroline Terrace, Briton Ferry, Glam.
Jones. Evan Daniel,	Bryn-yr-Enfys, New Road, Cwmllynfell.
Lyne. Daniel Roy,	26, Brunswick Square, Gloucester.

Mr. John Darch, F.S.I., then read a paper on "Illumination as a Study for Architects," which was illustrated by diagrams and lantern slides.

Mr. H. Freyberg, F.S.I. (London), in proposing a vote of thanks to the lecturer, said he thought it would be impracticable to have a light for each reader in a Public Library, and to trust to the readers to switch the lights off when finished with. He agreed with the lecturer that the illumination of schools had been shamefully neglected, he remembered his own schooldays and how badly the form rooms were lit.

It was nothing less than their duty to see that the sight of the rising generation was preserved by carrying out proper methods of illumination.

Mr. B. R. Tucker, m.r.san.i. (Past Hon. Treasurer), in seconding the vote of thanks, said that one of the chief points which architects had to take into consideration was the question of cost. They were limited in expenditure by their clients and there was very little if any margin for a special scheme of lighting. Light in its travels diminished in an inverse ratio to the square of the distance and they could not always afford to provide the amount of light necessary for lighting a room by reflection from the ceiling, owing to the great amount of light lost. Such a system might do for public buildings, but for private habitations it was out of the question.

Mr. Justus Eck said, as an electrical engineer, he was one of those people whom Mr. Darch had aimed a shaft at, and he thought it would be a pity to take to heart too seriously all that the lecturer had said regarding the bias of experts. It was to be regretted that Mr. Darch had not referred to daylight illumination. From what was seen around them it would appear as though architects in the past were not quite certain whether a window was intended as a ventilator or a lighting device, but the study of papers like the lecturer's would no doubt improve the illumination of buildings both from the daylight and the artificial lighting point of view. The importance of artificial lighting being as similar as possible to daylight had not been sufficiently impressed. Beautifully decorated buildings were seen to great advantage by daylight, and it was important that the effect produced on the eye should not be destroyed or minimized by artificial light. His experience, when approaching architects with a view to the use of arc lamps, was that they invariably declined to consider their use owing to their appearance, although he saw no reason why arc lamps should not be made an artistic feature, as in the case of two examples which he would like to show them. [Mr. Eck then exhibited two lantern slides showing Inverted Arc Lamps in specially designed covers—one of hard wrought beaten copper ornamented with panels of blue enamel, and the other of wrought and cast brass finished in old gold—and a third slide showing lamps so constructed, in use in a large West End establishment.]

Mr. H. V. Mackinney suggested that architects might have every confidence in the illuminating engineers, even if they were experts in one particular direction. They, as illuminating engineers, endeavoured to forward the industry and not their personal interests. There was a difference between the actual effect of daylight and illumination by artificial light. In daylight the surroundings were very bright and exercised a controlling influence on the aperture of the pupil of the eye, whereas to artificially illuminate a room with many foot candles would mean the use of a concentrated light producing very dark surroundings. The questions involved in the Appendix to the paper were receiving the attention of the London Illuminating Engineers' Society, who were expected to report upon the matter in the near future.

Mr. J. S. Dow said, that Mr. Gaster, the Hon. Secretary of the Illuminating Engineering Society, had been unavoidably prevented from being present and had asked him to say a few words in his absence. It was most desirable to have the views of architects upon questions of illumination. He felt that there must be many instances where an architect required a certain arrangement of lights on account of the architectural features of a building,—and arrangement which might be governed by quite different factors to those which lighting Engineers usually employed. He hoped that on some future occasion a paper by an architect would be read before the Illuminating Engineers' Society on this subject.

Mr. Thos. Ritchie, A.M.I.E.E. (*communicated*), said the question of satisfactory illumination was one bearing both upon the design, and decoration of buildings, and was more closely related to the comfort and well being of those using them, than any other, and, therefore, the importance of the subject from the standpoint of the architect could not well be over-estimated. Mr. Darch's condemnation of the (assumed) biassed attitude of Illuminating Engineers, as a whole, was, he thought, unnecessarily harsh, the advice given by such being frequently opposed to their own business interests, and in his opinion, architects need not hesitate to consult any qualified Illuminating Engineer, merely because of his known interest in any particular form of lighting. In dealing with the physical and physiological properties of light, Mr. Darch had referred to the activity (often in a harmful direction) of the ultra-violet rays, and quoted a table from Dr. Drysdale's recent article. One of the numerous advantages of *indirect* lighting lay in the fact that the dangerous ultra-violet rays were almost completely absorbed by such matt diffusing surfaces as were generally employed for ceilings. As regards the latter, he would like to ask Mr. Darch whether the figures of 2 and 1 quoted as the approximate percentage of yield of light for gas and incandescent gas respectively included the loss in the conversion of the coal into gas ? If not, then these figures should also presumably be discounted by the 80 to 85 per cent. cited as the loss in the conversion of coal into electricity. He was in agreement with Mr. Darch's desire for a considerably higher order of illumination than that so far adopted. Mr. Darch had in this respect, as in others, an exceedingly high ideal, and was in certain quarters looked upon as something of a prophet. He believed, however, that the lecturer's forecasts in the direction of increased, more scientifically correct, and consequently more satisfactory illumination, would be realized very much more speedily than might be supposed, and had hopes that, although not a young man, he himself might live to see it. Mr. Darch's later statement that to provide 3 to 5 foot candles in a schoolroom would entail a fatiguing blaze of light and a large expenditure, appeared somewhat paradoxical, in view of his earlier remarks. There were many schoolrooms in London where an illumination exceeding this figure was obtained on the desks, tables, and benches, without any blaze of light, either fatiguing or otherwise, and in which the economy of operation was all that could be desired. He was sorry that Mr. Darch disapproved of the "semi-indirect" method of lighting, and he took exception to his statement that the lamps used in such systems were objectionable on low ceilings. Everything depended upon the size and design of the lamps used, and how they were employed. Such lamps had been successfully used in the lighting of rooms not exceeding 9 ft. 6 in. high. Moreover, as certain users insisted upon a visible light source and would not entertain true indirect lighting, it was necessary to give them the next best thing. Mr. Darch was also a little hard upon wallpaper manufacturers in his remarks anent their failures to mark their various papers with the average co-efficient of reflection. Might it not be asked with equal truth whether the architect ever sought this information? Again, what light would Mr. Darch suggest that the information be given for, and what intensity of illumination? The co-efficient varied, in many cases considerably, with different lights, and to some extent at different intensities, just as did the appearance of the papers if the same were coloured. The problem was not so simple as it appeared, and the solution lay, he thought, in the adoption of bright diffused north daylight as a standard, and insistence upon the use of an artificial light as nearly approaching it, both in colour and character as possible.

Mr. Darch, in reply, said the architect was the man who held the key to the situation, and if he would turn his attention more seriously to questions of lighting, his influence would go farther than that of any other person. Reformers would, therefore, do best by spreading the gospel of illumination among architects. Mr. Freyberg had suggested that readers in a Public Library could not be trusted to switch out the lights, but he (the speaker) thought they could; he had seen many large Public Libraries remaining fully lit when in use by one or two readers only, and he thought that was a greater waste than where a light was occasionally left on by readers under the system he proposed. Mr. Tucker had said that indirect lighting could not be adopted in many cases owing to its cost, but he was of opinion that light for light and effect for effect it could be installed at an equal cost with direct lighting, and, where suitable, usually much cheaper. Mr. Tucker also referred to a loss of light in indirect lighting by reason of the distance of the ceiling. That was not the case. The law of inverse squares applied only to light radiating from a point in space; light from a ceiling that equals the area of a floor would lose little, whatever the height of the ceiling. In reply to Mr. Eck, the lecturer thought that he had very definitely and fully pointed out that daylight conditions should be those of artificial lighting, and he quite recognized that nothing met those conditions better than indirect lighting received from a large white ceiling illuminated by good steady carbon arc lamps. He (the speaker) did not know why Mr. Mackinney should assume that artificial lighting, however high the candle power, meant concentrated light and dark surroundings. The very object of this lecture was to condemn that sort of thing, and point out a better way. In regard to Mr. Ritchie's first criticism, he thought there were many engineers who would honestly advise their clients, when necessary, against their own interests; but, unfortunately, that was not always the rule, as architects were aware. Neither was it to be expected, for those who were interested in any system or article had as honest and conscientious a conviction in its favour as other equally conscientious engineers had against it. It was not a question of honesty but of opinion. Illuminating engineering, at present, was in the hands of electrical and gas engineers, and most of those with whom it is his privilege to be acquainted were doing splendid work in the cause and for which architects could not be too thankful; but the illuminating engineer of the future must be no partisan and have no commercial interests. In reply to Mr. Ritchie's question as to the yield of light from gas, Dr. Drysdale's figures referred to luminous efficiency in lamps only. It was obviously necessary to point out the loss of energy in mains, dynamos and steam engines, none of which loss occurred in candles, gas or oil lamps, otherwise, it would have appeared that metallic filament lamps were 50 times more efficient than gas flames. In writing his paper, the author felt that comment would be provoked by his statement under the head of "Excess" that "if the light is properly diffused there is no available intensity that is too great," and his remark under General *v.* Local Lighting where he stated that 3 to 5 ft. candles would mean a fatiguing blaze of light. There was no paradox, for in the latter case he referred to ordinary direct lighting and in the former to light "properly diffused." Both were true in principle and fact. As to semi-indirect lighting; it was excellent in lofty rooms where the eyebrow could cover the foremost lamp, but Mr. Ritchie had admitted that it was only the next best thing to illumination from a ceiling surface. Then why not have *the* best? People who insisted on having a visible light with an intrinsic brilliancy of 3 or 4 candle power per square inch continually before them were governed by the prejudice of custom and should be educated to better things. How could he be hard on wallpaper manufacturers when no one has suggested to them the need for the information referred to? The experts are to blame for not suggesting and showing them how to obtain it.

"If the examples of lighting that may be seen everywhere have any power of demonstration, it must be conceded that the average architect is not greatly impressed with the importance of good illumination. It is seldom preconceived, and is largely left to the empirical methods of the electrical engineer or gasfitter, who have shown a complete disregard for those fundamental and common-sense principles that are essential to successful illumination.

"In observing the purely engineering aspect of the subject, one cannot sufficiently admire the manner in which science and technics have been pursued to further the perfection of the various devices employed in the production of light and in bringing it to the house. But there the engineer's function has ended ; he has brought the consumer a good article and left it for him to use it, waste it, or do as he likes with it.

"That is the position of the consumer who, already bewildered by the fierce commercial rivalry between the gas and electric interests—each of whom pelt him with facts and figures that the other side immediately contradicts—has formed two clear opinions, viz., that gas and electric engineers are more concerned in pushing forward their own commodity than in considering his real interests, and that he must look elsewhere for advice. He naturally turns to his architect, and does well, for the art of illumination is co-related to architecture and decoration ; it is a thing apart from engineering and independent of the nature of the illuminant, while its rules apply with impartiality to electricity, gas, acetylene, or oil lamps ; it is, in fine, a study for the architect.

"The architect may, of course, employ a specialist, but, even then, he should know enough to judge the work of such a person, as Professor Sylvanus Thompson has remarked, has been called an 'illuminating engineer, in default of a more appropriate name.' Truth to tell, the profession is hardly yet established, but let us see what sort of a person this should be. First of all, he should be independent, for to be exclusively in practice as a gas or electrical engineer, or interested in the manufacture of fittings or glassware must, necessarily, prejudice him and invalidate the value of his advice.

"Still, he must have sufficient knowledge of such of the engineering problems of gas, electric, acetylene, petrol-air gas, and oil lamp lighting, as will affect its service in the building. The lighting of ordinary interiors would demand from him something of the instincts and training of an architect or decorator, and he should be well informed in modern physics and opthalmic physiology. Such a man would be of great service to an architect."—*The Surveying and Housing World.*

"Is there a science of illumination, or is it an art ? We incline to the former, with a considerable spice of the latter, in that in illumination quantity can be written with almost, or quite, mathematical accuracy. Mr. Darch read a paper before The Society of Architects that ought to cause more attention to be given to a subject that is at once difficult and simple. Not long since we pointed out the purifying value of the ultra violet rays of the spectrum, and we again direct attention to it in questions of ventilation. Mr. Darch says: 'The ever present difficulty in artificial lighting is the preponderating accompaniment of heat (or ultra red) rays and the activity of the actinic (or ultra violet) rays ; both are invisible, but their power over the human economy for good or ill is nevertheless very real, while the luminous part of the spectrum of radiation for all illuminants is a very small one.' Put this into other language—energy is expended to create vibrations. Only a small part of these vibrations is utilised to give light. Mr. Darch, quoting Dr. Drysdale, says that only 0·1 per cent. of candle energy is obtained for light-giving purposes, and only 10 per cent. of the energy put into a metallic filament lamp is accounted for by light. The firefly is given as almost a perfect light-giving machine, 99·9 per cent. of the energy being given as light, an assumption backed up by eminent scientific authority, which, however, we in all humility deny. We, with all due respect to Sir Oliver Lodge and others, have no belief in the capacity for even a firefly to generate vibrations to this extent belonging to one particular part of the spectrum. But, with regard to the artificial illumination for interiors, it is just as well to keep in mind the necessity of sanitation, as well as that of lighting. Electrical lighting is not only more economical in energy used, but is doubly blessed as a sanitarian. We ought to have said incandescent gas gives only 1 per cent. as against the 10 per cent. above for lighting. The point we wish to state, however, is that while the gas contaminates the air supply, the electrical lamp not only does not contaminate, but it purifies. The ultra violet rays, which emanate in larger quantities from the electric energized filament, kill off the bacteria in the air. In the years gone by, when Sir W. H. Preece used to tell us of the cleanly and healthy electric 'glow' lamp, we had less knowledge of the reasons for such a state of things. We knew of the non-contamination, but 30 years ago knew nothing of the purifying action. Thus architects and engineers in designing for artificial illumination have to consider factors which a few years ago were unknown, and, so far as interiors are concerned, must take into account the higher temperatures used in electrical work. There is little to be said as regards quantity. The law of inverse squares is well known, and we agree with Mr. Darch that a high degree of general illumination is not fatiguing. The trouble is equable diffusion. The Institution of Electrical Engineers light their meeting room with hidden lights—that is, by diffusion; but the candle-power obtained might with advantage be raised. Civilised mankind has been going through a course of education as regards artificial light, which artificial methods of living have rendered necessary. Still, it is only slowly that we are beginning to find that quantity and quality of light are necessary. It is easy and cheap to get quantity with variations, but the ideal is, like daylight, equally diffused; hence we should feel inclined to apply more generally the view that Mr. Darch applies to factories and workshops. 'Nothing is better for this (we say any) purpose than indirect lighting.' "—*Contractors' Record.*

Illumination as a Study for Architects.

By John Darch, F.S.I.

IN submitting this paper to The Society of Architects, my object is to draw attention to the present objectionable methods of artificial lighting, to point out a more reasonable and acceptable way, to define the position of the architect as against that of the engineer in this matter, and to touch briefly upon some of the points necessary to a proper understanding of the subject.

THE POSITION OF THE ARCHITECT.

If the examples of lighting that may be seen everywhere have any power of demonstration, it must be conceded that the average architect is not greatly impressed with the importance of good illumination. It is seldom preconceived and is largely left to the empirical methods of the electrical engineer or gas fitter, who have shown a complete disregard for those fundamental and commonsense principles that are essential to successful illumination.

In observing the purely engineering aspect of the subject, one cannot sufficiently admire the manner in which science and technics have been pursued to further the perfection of the various devices employed in the production of light and in bringing it to the house. But there the engineer's function has ended; he has brought the consumer a good article and left it for him to use it, waste it or to do as he likes with it. That is the position of the consumer who, already bewildered by the fierce commercial rivalry between the gas and electric interests—each of whom pelt him with facts and figures that the other side immediately contradicts—has formed two clear opinions, viz., that gas and electric engineers are more concerned in pushing forward their own commodity than in considering his real interests, and that he must look elsewhere for advice. He naturally turns to his architect and does well, for the art of illumination is co-related to architecture and decoration; it is a thing apart from engineering and independent of the nature of the illuminant while its rules apply with impartiality to electricity, gas, acetylene, or oil lamps; it is, in fine, a study for the architect.

The architect may, of course, employ a specialist but, even then, he should know enough to judge the work of such a person who, as Professor Sylvanus Thompson has remarked has been called an "illuminating engineer in default of a more appropriate name." Truth to tell, the profession is hardly yet established, but let us see what sort of a person this should be. First of all, he should be independent, for to be exclusively in practice as a gas or electrical engineer, or interested in the manufacture of fittings or glassware must, necessarily, prejudice him and invalidate the value of his advice. Still, he must have sufficient knowledge of such of the engineering problems of gas, electric, acetylene, petrol-air gas and oil lamp lighting as will affect its service in the building. The lighting of ordinary interiors would demand from him something of the instincts and training of an architect or decorator, and he should be well informed in modern physics and ophthalmic physiology. Such aman would be of great service to an architect.

THE GOVERNING FACTORS

of illumination may be classed under the following heads: (1) Physical; (2) Physiological; (3) Æsthetic; and (4) Economic.

We have to see what these factors demand and what are the principles deducible therefrom.

1. THE PHYSICS of light in its more modern form is built upon theories essentially different to those which held place in our younger days, and afford a much better explanation of the forces and phenomena involved in illumination. The ever present difficulty in artificial lighting is the preponderating accompaniment of heat (or ultra red) rays and the activity of the actinic (or ultra violet) rays: both are invisible but their power over the human economy for good or ill is, nevertheless, very real, while the luminous part of the spectrum of radiation for all illuminants is a very small one.

Dr. Drysdale, in a recent article, has given particulars of the enormous waste of energy—principally in heat—necessary for an exceedingly small percentage of light, and which I have put into the following table:—

Energy expended in	Percentage of yield of light (approx.)	
Candle	0·1	
Oil lamp	0·2	
Gas flame	0·2	
Incandescent gas	1·0	
Carbon glow lamp ..	2·5	This is in lamps only, and is exclusive of loss in conversion from coal to electric mains, which will discount it 80 or 85 per cent.
Nernst	5·0	
Metallic filament	10·0	
Ordinary arc	20·0	
Vacuum tube	40·0	
Firefly	99·9	

The last item has been inserted for comparison. If we only knew the firefly's little secret we should be able to put all our energy into pure light and save both our eyes and our pockets. At the present time our only method of getting a larger proportion of luminous rays is to increase the temperature of the radiating body by which the rate of the frequencies are increased and forced towards the luminous part of the spectrum.

The diagram (Fig. 1) shows a spectrum of radiation with curves of energy thereon from various kinds of light centres and the proportion of heat, light, and actinism included.

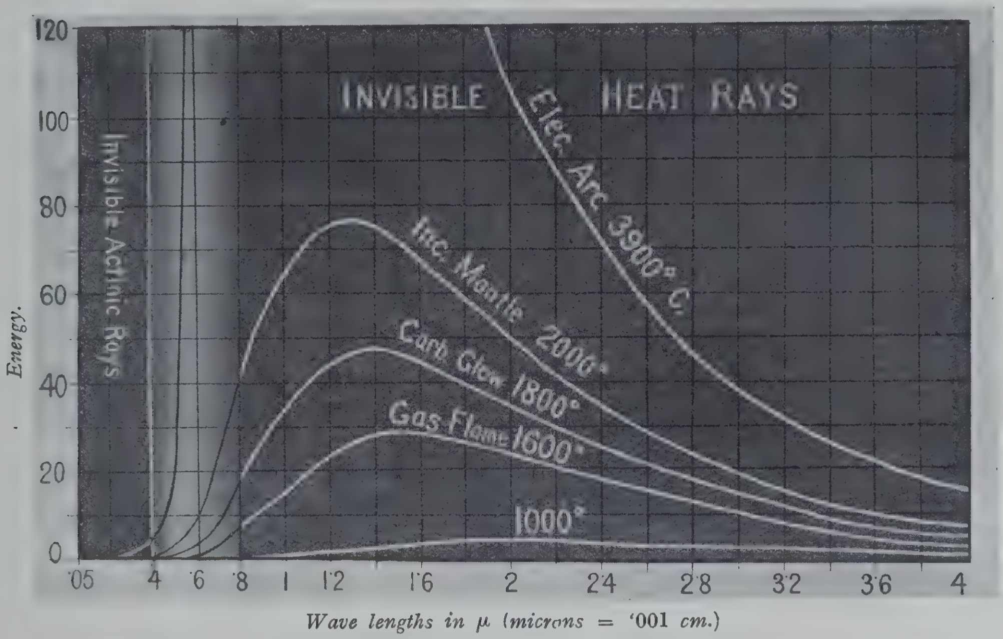

FIG. 1. SPECTRUM OF RADIATION AND TEMPERATURE OF RADIATORS.

2. PHYSIOLOGICAL.—Modern life and modern lighting have already given an abundance of work to an increasing army of ophthalmic surgeons, and created a state of things that loudly demands that those who deal with the forces of radiation should understand the powers and dangers of that which they handle and the capabilities of those organs for which it is intended.

Much information has recently been forthcoming as to the behaviour of the eye under various applications of light, and the architect would find that even a brief enquiry into these matters, particularly that relating to the perception of colour, would be useful to him in his study of the art of illumination.

We have to realize that the eye, as it exists, has been formed under the influence of Nature's environment during untold ages, and that it is, therefore, easier for us to adapt our lighting to the requirements of the eye than the eye to the lighting. The eye more particularly resents upward or horizontal radiation, and low placed lights may have an effect not unlike snow-blindness.

The conditions of good artificial lighting, therefore, should approximate to those of daylight and which may thus be stated :—

(*a*) A sufficiency of light, (*b*) perfect steadiness, (*c*) effective diffusion, (*d*) freedom from violent contrasts, (*e*) a downward direction (preferably oblique), and (*f*) color as white as possible.

Unfortunately, these conditions are violated in nearly every lighting installation, and we all, more or less, unconsciously suffer therefrom.

Injury may be caused either by an insufficiency of light or by an excess, which really means an excess of the wrong sort or of wrongly applied radiation.

Insufficiency of illumination is a leading cause of eye-strain with its train of nervous disorders. Dr. Kerr, in a report upon some London schools, found that in children under six years of age the eyes of 3% were defective, at eleven years the proportion rose to 11%, and in the older classes to 25%. It was also pointed out that 18% of the schools were badly lit. The conclusion is obvious. Amongst the studious, the clerical and the close worker from 50% to 70% have defective eyesight, largely myopia, and yet myopia is said to be unknown in savage life and rare amongst seamen and farmers.

Excess.—Light is a good servant but a bad master ; if properly controlled we cannot have too much of it, for in common with any other power distribution it can be so much more effectively and suitably applied when there is an abundance of power behind.

Sunlight often reaches 8,000 ft. candles, and we find that a diffused daylight of 2,000 ft. candles is both comfortable and healthy, while from that to 100 ft. candles is our daily experience. Such intensities are far in excess of anything we ever get in artificial lighting, for a general illumination of 5 ft. candles would be considered quite brilliant ; nevertheless, if the light is properly diffused there is no available intensity that is too great, and I quite differ from those who maintain that a high general illumination is necessarily, fatiguing. I have sat under 22 ft. candles with comfort and pleasure, and for the same reason that people unconsciously gravitate to the light, so a high diffused illumination will come to be generally appreciated.

The evils of excess arise chiefly in exposed lighting and in intensely brilliant surfaces ; for while diffuse reflection would seldom exceed 1 candle power per square inch, the intrinsic brilliancy of sources are, by comparison, excessively high. Thus the

Candle flame	averages	2	c.p.	per	sq. in.
Gas flame	,,	3	,,	,,	,,
Oil lamp	,,	4	,,	,,	,,
Incandescent gas	,,	25	,,	,,	,,
Carbon glow lamp	,,	450	,,	,,	,,
Metallic filament do.	,,	1,000	,,	,,	,,
Lime light	,,	5,000	,,	,,	,,
Flame arc	,,	5,000	,,	,,	,,
Arc lamp crater	,,	20,000	,,	,,	,,
Sun at zenith	,,	600,000	,,	,,	,,

and it should be remembered that it is the intrinsic brilliancy and not the total flux that counts physiologically.

The infra red rays reach the retina just as readily as light, and give trouble accordingly, but the more destructive are the ultra violet rays, the effects of which have been fully detailed in several recent medical essays. Happily, ordinary glass absorbs certain frequencies of these rays, and a special glass all. Glass globes are therefore essential to high power lamps. Quartz glass, however—used for its refractory qualities—is no protection.

Contrast has an important bearing on the economy of the eye. Sensation, according to Fechner's law, is relative and not absolute. A bright light against a white background may be, at least, tolerable, and in the daylight it may even pass unnoticed; but the same light on a dark background would, probably, be very painful. Under such circumstances, the pupil of the eyes is alternately endeavouring to open to discern surrounding details and spasmodically closing against the bright light, fatiguing both the muscles and the retina. Professor Weber gives 100 to 1 as the safe limit of contrast.

3. ÆSTHETICS are frequently the sole *raison d'etre* of an architect's employment, and that would be for the satisfaction of one sense only—sight; and seeing that form and color are a mental sensation due entirely to illumination, it follows that the character and direction of that illumination entirely governs the situation.

Let it be noted (1) that a white light and that only will reveal a complete range of colors; (2) that flat decorated surfaces require a uniform and sufficient illumination and arranged so as to avoid gloss; and (3) that the natural means of exhibiting architectural features and sculpture is a partly diffused downward or oblique light.

The Greek architects well knew that it was upon the lights and shadows that their superb art depended. An architectural feature in any other light than that for which it was designed becomes an abortion; and yet how often do we apply ourselves with painful precision to design features that never will and never can be seen as drawn. Go into any church or public hall at night and proceed to study the architectural features by its artificial lighting and see what a travesty stands before you. When we illuminate an interior our obvious duty is to apply a literal "lamp of truth," so that we may not only see all that is intended to be seen, but that it may produce its intended effect. The advice of an architect who could so illuminate an important building as to clearly and readily display its true character and full beauty would be very valuable.

The design and manufacture of fittings occupies one field of art; it represents a large field of industry and is an overwhelming feature in the lighting engineer's showroom; but so far from its entering into the æsthetics of illumination it is rather inimical to it. Some of the designs are, in themselves, very elegant and, of course, nothing can be said against art in metal work, but beauty cuts a sorry figure without consistency and utility. Two hundred years ago a grand reception demanded hundreds of candles, for which huge, wide spreading ormolu or cut glass chandeliers were necessary. These cumbrous relics of the past are still used with twentieth century lights engrafted thereon; they dominate the room and practically defeat their own ends, for one has to peer painfully around or under them to see anything. There are, of course, cases and places where some sort of fitting would be necessary, but the whole business needs revolutionizing.

Another misapplication of æsthetics to illumination is what may be termed "decorative lighting." It exists for its own sake and reveals itself in ornamental effects of light and in sparkling and colored glassware that destroy the effect of the legitimate decorations; it forms itself up in lines, panels and figures, in fact, instead of illumination it becomes *illuminations*.

4. ECONOMIC.—The commercial instincts of both makers and users of light lean to that which affords the most economical results and while both the gas and electrical engineer have recently shown us how we can treble our output of light without further cost, there is no one to show that there is also an economy of distribution and application, to say nothing of the personal factor. The art of illumination teaches how to save waste of light by methods of calculation and tests that, so far, have been seldom applied.

There is another aspect of economy which some employers of labor have already put into practice, viz., on the principle that "the health of the worker is the wealth of the employer," that money spent in good illumination is a profitable investment by reason of the better quality and quantity of work turned out.

GENERAL PRINCIPLES.

The whole case for good lighting is embodied in a very simple axiom, viz.: *The purpose of artificial lighting is to make readily and properly visible the things required to be seen.*

This may be made more definitive by the following rules:—

1. The lamps or other sources of light to be so disposed that they do not occupy the field of vision.
2. The illumination to be sufficient to cause the objects to appeal at once and with comfort to the eye.
3. For general illumination the light to be well diffused with a preponderating downward direction, freely flooding ceilings and walls.
4. Local lighting to such as desks, benches, exhibits, etc., to be specially suitable and in most cases adjustable in position and power.
5. The color to be as pure and white as possible. Monochromatic light, as a rule, to be avoided.

These rules must be strictly adhered to. Curiously enough, some of our illumination reformers have advocated similar principles and straightway broken them in their next job.

A false light makes a false impression, and an interior, no less than a face, can only be its own self when naturally presented. It requires nothing more than common-sense, and a consideration of the natural demands of any object to be illuminated, in order to produce truthful and agreeable results.

GENERAL *v.* LOCAL LIGHTING.—The relative merits of general and local lighting have been the subject of much discussion. Thus, a bank may have a general illumination sufficient for desks and all purposes, or the desks may be locally illuminated with desk lamps from which a small amount of light may escape into the gloom overhead ; or, again, there can be a combination of both. Daylight has been quoted as an exemplar in favor of general lighting only, but when it becomes practicable to provide artificial light equal in quality and abundance to that of freely admitted daylight, nothing could be said against it. It is a question of sufficiency of light, and of what has to be illuminated ; each case needing special consideration. In the average public hall, general lighting only would be the best because the illumination at the working level, which would usually be sufficient at 1 ft. candle, could easily be obtained, and because it is desirable to exhibit the decorative features. A school or reading room would be a different matter, for 3 to 5 ft. candles would be necessary, and to get this in general lighting may mean a fatiguing blaze of light, and a large expenditure, while any varying local needs could not be met. There are cases where all needs are best met by local lighting only, but the most economical and satisfactory results are usually obtained by a small measure of general lighting combined with an adequate and well shaded local lighting.

General illumination may be broadly considered as of two kinds, direct and indirect, but there may be modifications and combinations of both.

DIRECT LIGHTING is that in which the light radiates immediately from the source to the objects to be viewed. Where glass shades are used it would still be considered direct lighting. This method is usually economical and convenient, but it should be used only where it can be made to accord with the foregoing rules, as for example :—

(*a*) Ceiling lights in lofty rooms, where the eyebrows, which are designed to screen the eyes from the sky, will serve the same purpose at night, and in such cases no lights should subtend an angle greater than 30° from above the eye. (See Fig. 2.)

(*b*) Direct lighting would also be used in places that are normally

EYEBROWS AS SCREEN.

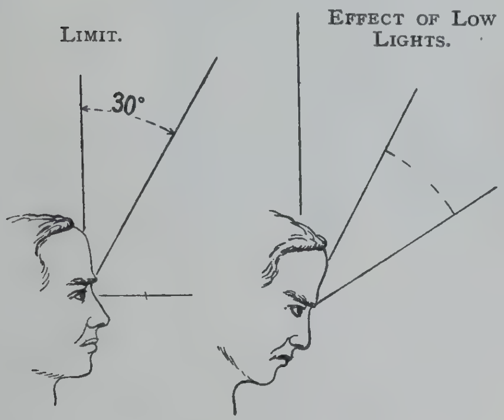

FIG. 2.

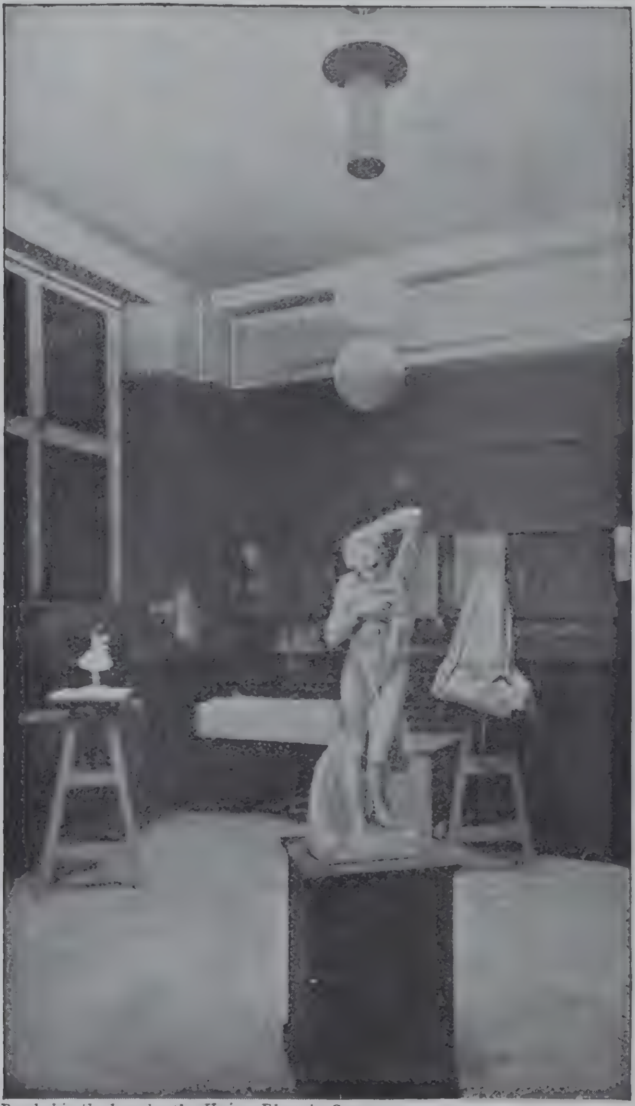

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FIG. 3. EXAMPLE OF INDIRECT LIGHTING FROM CEILING SURFACE SHOWING THE DIFFUSION AND TRUTHFUL EFFECTS FROM ONLY ONE INVERTED ARC LAMP. A FLAT DISC AND SPHERE ARC SUSPENDED UNDER THE LAMP FOR COMPARISON.

viewed in one direction as shop fronts, churches, public halls, picture galleries, etc., in which the lamps may be recessed or screened.

(*c*) Under any circumstances where the lights do not come before the eyes.

In this connection, I would like to make some remarks upon

SHADES AND SHADING.—The art of shading consists in the use of shades that will afford complete protection to the eyes, with a minimum loss of total light, to produce better illumination and to increase visual acuity.

The word "shade" implies some protection, but what are commonly called "shades" are ridiculous misnomers. They may be classified into (1) transparencies; (2) diffusers; and (3) real shades.

1. It must be obvious that a globe, bell, or screen of glass that is transparent or so lightly figured or finished as to be nearly so, can afford no protection to the eyes, particularly to those who seek to find something "pretty" in it; and yet, the greater part of the stock of the average fittings manufacturer consists of this sort of thing.

2. In diffusers and translucencies the object is to distribute the intrinsic brilliancy of the light over the visible area of the globe or shade. Nothing does this more perfectly than opal glass, although with considerable loss by absorption. Prismatic glass aims at the same object, and although it passes more light, is usually less successful. Frosted or ground, iced, opaline and the like are improperly counted as diffusers, for the light remains as a brilliant centre. But even the best of these, the opal and the prismatic, are commonly from 20 to 100 times too brilliant to be constantly before the eyes. On the other hand, they are often needless darkeners and wasteful; for instance, the surface of an ordinary 8 in. globe is nearly 200 square inches; it is placed, say, on a bracket; it will be seen by Fig. 4, that not more than about 35 square inches is employed in screening the eyes, and yet we block out the whole 200 inches for the sake of 35.

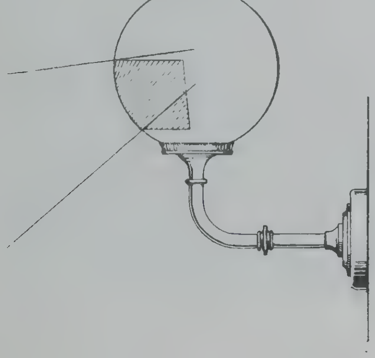

Fig. 4. Globe. Insufficient and Wasteful.

3. Real shading is effected by opaque or semi-opaque screens—the latter passing not more than $\frac{1}{10}$ candle power per square inch—just enough to cover the bare lights and no more. By far the greatest proportion of light will, by this means, fully and directly flood the ceiling, walls and other objects, and the practical result will be a pleasing and soft effect with easy discernment of detail. This is illustrated in Fig. 6, which represents a drawing room containing 3,500 cubic feet, which happens to be

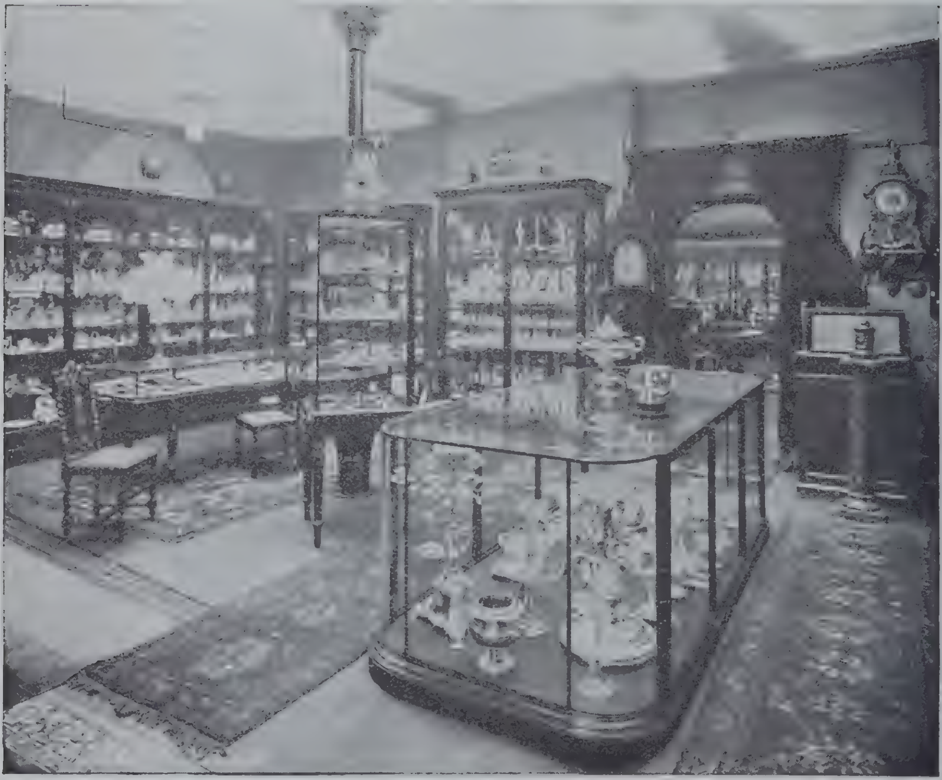

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Fig. 5. Example of indirect lighting from ceiling surface with 10 amp. inverted arc lamps in a jewellery and plate showroom in Reading. Illumination on table cases 7½ ft. candles, in side cases 4½ ft. c. One lamp to 220 ft. sup. Energy consumption 2·2 watts per sq. ft. Note the evenness of lighting and soft shadows.

lit by brackets. The level of the eye in standing is seldom higher than 5 ft. 6 in. from floor or in sitting, less than 3 ft. 6 in. The perambulation of the eye is therefore limited to a central space which, as shown, does not contain more than 380 cubic feet, leaving the remaining 3,120, or eight times the reserved space, free to direct lighting; and the shades which would be semi-circular on plan, need only be wide enough to cover the angle A B C. Do not assume that this leaves a darkened centre, for the whole room is equally and agreeably illuminated. This principle is applicable also to pendants, and may be employed in a hundred different ways, both for private and public lighting. One of these is shown in Fig. 7, in which it will be seen that the whole wall is illuminated.

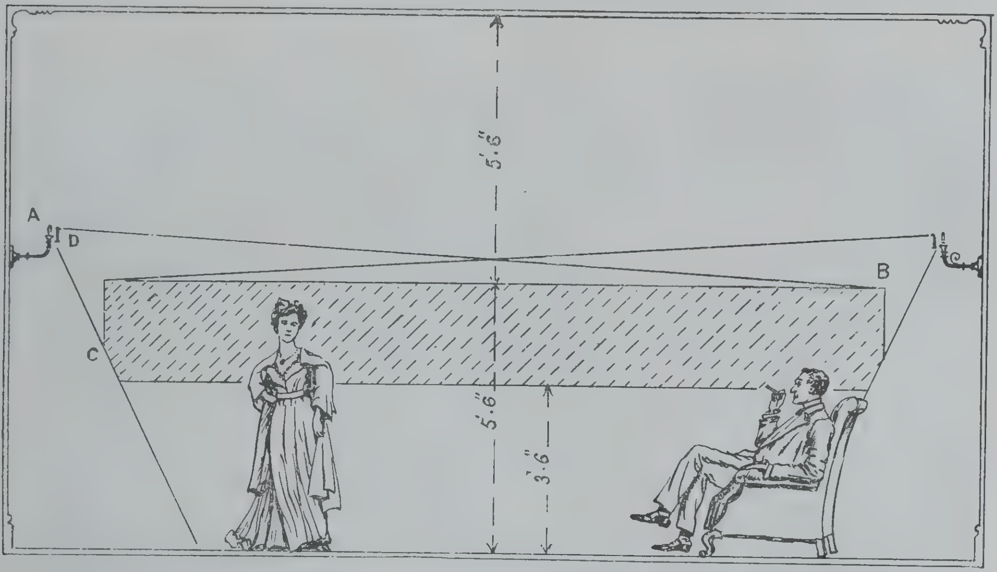

FIG. 6. SHADING WITH ECONOMY AND BETTER LIGHTING.

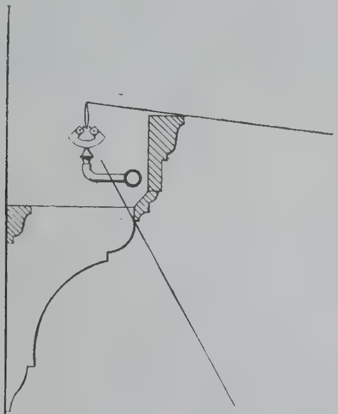

FIG. 7. FRIEZE SHADE. CEILING AND WALLS ILLUMINED.

Reflectors are sometimes used with great advantage, particularly those of opal and prismatic glass, which both reflect and refract, but they should only be used where they are essential to a required result.

INDIRECT LIGHTING is that in which the illumination is obtained from surfaces illuminated by concealed lights. It usually pre-supposes a white ceiling and upper walls or other extensive diffusing surfaces—the larger the better. The results are great uniformity of lighting, approaching

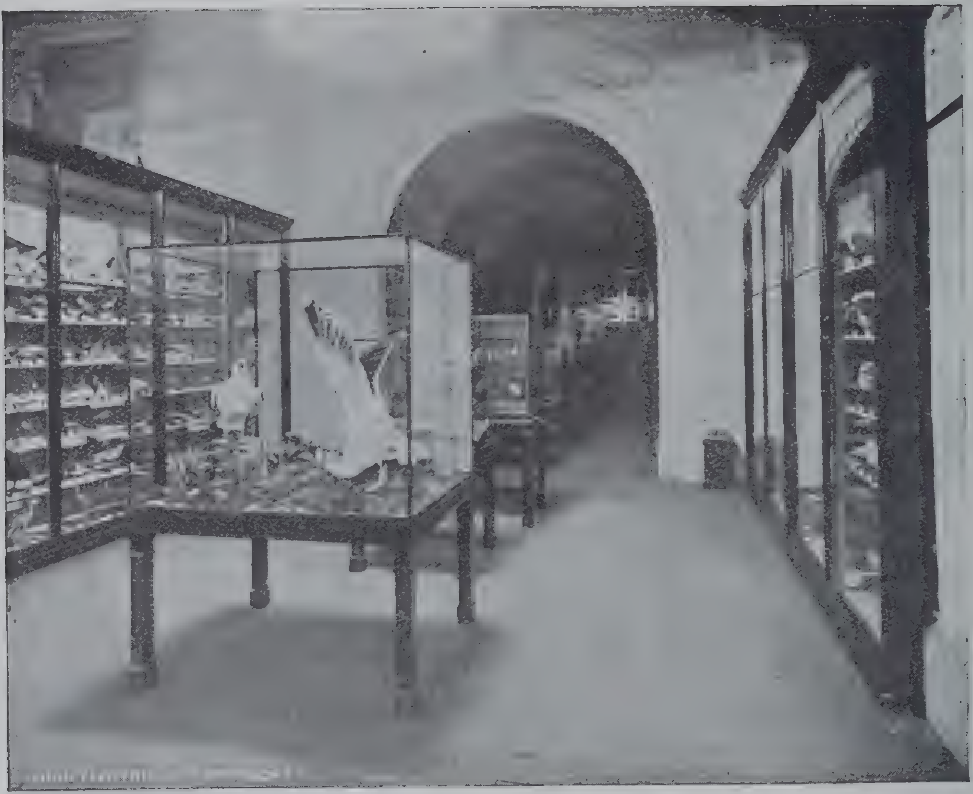

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Fig. 8. Example of indirect lighting from 36 in. reflectors illuminated by 10 amp. inverted arc lamps at the Natural History Museum, South Kensington. Illumination at bottom of cases 7½ ft. candles, on floor 4¾ ft. c. One lamp to 315 sq. ft. Energy consumption 1·6 watts per ft. sup. Note that the reflectors darken the ceiling and the lighting is less diffused.

practical daylight more nearly than with any other system, while admitting of greater distinction of vision and affording comfort to the eye

It has been objected to this form of lighting: (1) that it has a cold and cheerless effect; (2) that there is a flatness and an unpleasant absence of shadow; and (3) that light is wasted by absorption.

With regard to the first if by "cold" is meant whiteness of light it is a point gained; nothing but prejudice could prefer colored light; the ruddy glow of evening may be very beautiful, but we should not like to have it all day.

As to the second, that it is flat and shadowless, it is really not true. Indirect lighting does no more than to relieve the blackness of shadows just as daylight does while it puts a soft gradation on reliefs, as will be seen in the photographs exhibited.

With regard to the last, it is a fact that of the total flux of light, a considerable percentage is absorbed, but it is also a fact that more light enters the eye than by a higher intensity of direct illumination and, as stated, vision is much easier.

The means that may be employed are arc lamps,—providing they are of the right kind—tungsten glow lamps or incandescent gas in inverted bowls or reflectors on pendants or brackets, or lights may be hidden behind cornices, screens or in many other forms. Where there is not a suitable ceiling, downward reflectors will be required, but to maintain the principle they must be large and with a diffusing surface. It is absurd to put them under a good ceiling as is often done.

[This subject was then illustrated by eighteen lantern slides from some remarkable photographs taken at night by Mr. Thos. Ritchie, showing the interiors of the Natural History Museum, art class-rooms, gymnasium, drawing offices, bakehouse, cabinet making and dressmaking factories, London newspaper machine room, jewellers, dress, and other showrooms, and also a church, all amply illuminated—from 4 to 10 ft. candles—and yet, with soft and daylight effects. Indirect lighting from the ceiling gave the best results, in other cases 36 in. over reflectors were used. Good illumination was obtained from "semi-indirect" lamps, but they were objectionable on low ceilings. See figures 3, 5 and 8.]

PHOTOMETRY AND ILLUMINOMETRY.

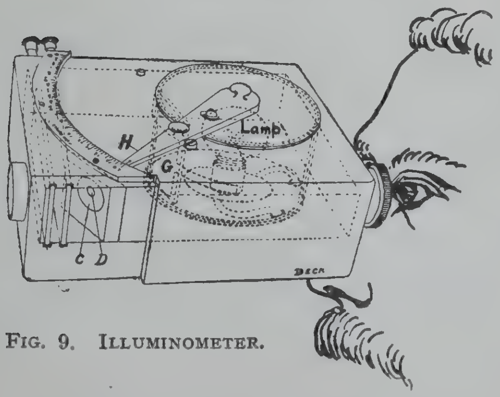


FIG. 9. ILLUMINOMETER.

Photometry as we have known it for a good many years has been confined to the laboratory, and consisted mainly in the determination of the candle-power of lamps; but in respect of illumination the practical work of the architect or illuminating engineer has been much facilitated by the recent introduction of very convenient measuring instruments known as "illuminometers." Here is one (Fig. 9), almost pocket size, by which the intensity of any illumination falling on a surface may be ascertained from any distance by directing the telescope towards it, when the intensity of the illumination in foot-candles may be read directly from a scale. Surface brightness or reflection and the candle-power of lamps may be just as easily obtained. The value of this and other similar instruments must be obvious from the following:—

Case 1. In giving instructions for a lighting installation the architect may and should, specify in foot-candles the actual illumination he wants on desks, walls, or working surfaces, and with such an instrument he can see that he gets it. The present procedure is for the engineer to provide him with a schedule of lamps which affords him no information.

Case 2. In preparing reports of premises it will provide the architect with definite data.

Case 3. In ancient light cases the rule of thumb methods of determining amounts of light that creates such contradictory expert evidence can now give place to indisputable fact.

Case 4. In rendering legislation intelligible. At present the Factory Act Regulations of 1908, require that certain rooms be " efficiently " lighted, an expression that is better adapted to bewilder a magistrate than to be of service to any building, Had those Regulations required a minimum illumination of 1 ft. candle or otherwise. the illuminometer would have placed the matter beyond dispute.

STANDARDS, UNITS AND NOMENCLATURE.—We have two Illuminating Engineering Societies, respectively in London and New York, each with a large Continental membership, where gas and electrical engineers meet and smile on each other, and architects and ophthalmic surgeons confer with both. Amongst other good things, they have done much to unify and establish a common and international understanding upon standards, units and nomenclature,—a primary necessity to discussion.

In England, America and France, the international candle (the bougie decimale has the same value), is the standard; in Germany, it is the Hefner candle (HK). On the Continent the lux or metre candle is used in measuring illumination; in England and America the foot candle.

An explanation of the values of the principal units and the meaning of technical terms have been given in an Appendix hereto, and may be of service.

LAMPS AND POLAR CURVES.

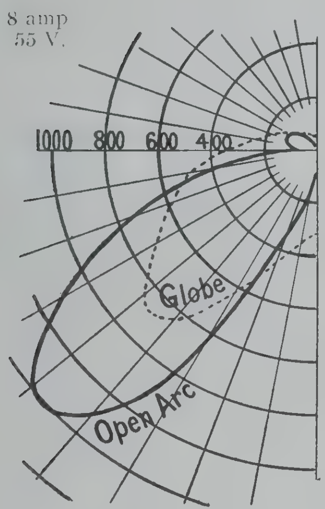
Where the choice of an illuminant is possible, preference is largely a matter of circumstances and not always one of cost. The hygienic question, so much disputed, may be set aside, for while there are cases where gas would be objectionable, there is nothing to fear therefrom in the ordinary ventilated room.

Although the lamp is an engineering device, it is so intimately concerned with architectural considerations that the onus of its choice should be upon the architect, and he would therefore do well to acquaint himself with the various distinguishing features of the leading lamps now before the public. To set out comparisons would create dispute, but the architect is advised to accept no statement from interested parties without guarantee or independent proof.

Then there are the sizes of the lighting units to be decided upon, not on mere opinion, however experienced, but on carefully prepared figures. Finally, there is the form of lamp and the question of polar curves.

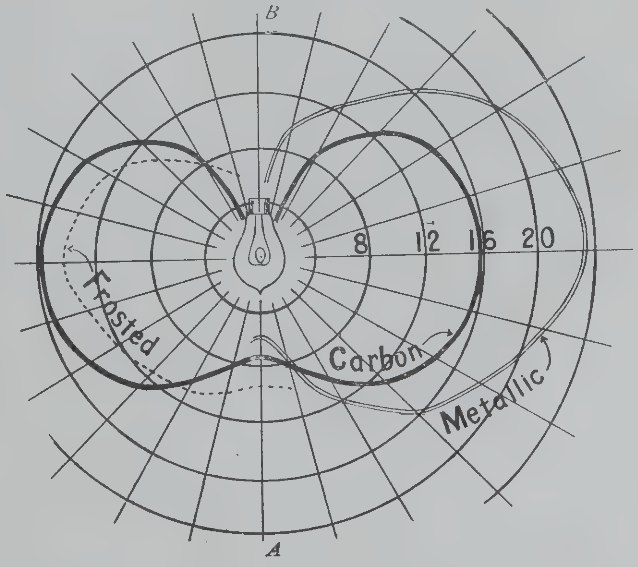
The nominal candle-power of a lamp, although correct in one direction, affords no idea of its total yield; hence the actual duty of a lamp is more truly stated in mean spherical candle-power or given in lumens.

POLAR CURVES.



Open Arc.

Fig. 11.



Light around Glow Lamps.

Fig. 10.

Fig. 10 is a polar diagram of the light from an ordinary glow lamp. The light flux in a horizontal section *around the pole AB.* may be taken as symmetrical, but in vertical section the intensity varies greatly. The nominal value of the lamp is 16 c.p.; this has been found to be correct in a horizontal direction only; directly upwards it is nothing because of its own shadow; downwards it is but 7 c.p., and in other directions the intensity marked off on the radial lines enables the polar curve to be drawn, as shown, and which indicates the distribution at a glance. The mean spherical candle-power is 13·2. Metallic filament lamps have an even greater diversity: 23 c.p., horizontally, having been found to give but 5 downwards. The polar curve of any lamp is much modified by frosting or by the use of shades or reflectors; hence, a lighting unit should include the lamp and its adjuncts.

Fig. 11 is a polar curve of an ordinary open arc lamp, showing how preponderating is the light in an oblique downward direction.

Polar curves can be made of any kind of light, and purchasers of new types of lamps should demand a polar curve from the manufacturer.

In lighting a large room, it may be desirable to obtain a general illumination on a working plane, say 3 ft. from floor. This, as obtained from a given number, candle-power and polar curve of lamps should be marked on a plan in ft. candles at convenient intervals, or in contour lines if preferred. The intensity of local lighting on platforms, desks, etc., if any, should be also stated. In working it out the first result may need to be adjusted until it is satisfactory, but this done, the architect may know beforehand exactly what he is going to get at any point, and the expenses of experiments and rectification of failures should become a thing of the past.

DECORATION, WALL PAPER AND REFLECTION.

Effective lighting depends upon two factors; (1) the illumination as expressed in foot-candles or lumens, *i.e.*, the light falling on a surface, irrespective of the nature of that surface; and (2) the light absorbing power of the surrounding surfaces.

When an architect decides upon dark oak pannelling or deep red wall paper, does he fully realize the extent of its effect upon the lighting, or would he put as much as three times the illumination in such a room than in a room with light decoration? Where is the wall paper that has printed on the back of it:—

avg co-effic. refl. 0.42.

or whatever the co-efficent of reflection may be?

The factor of reflection is of more importance in the illumination of a room than is generally realized; indeed, without some reflection illumination would be absolutely nullified: the lamp might shine, but darkness would reign. What we do see depends entirely upon the specific absorption of the surfaces before us, both as to luminosity and color. One ft. candle on white paper would do more than 200 ft. candles on black velvet.

The following are a few co-efficients of diffuse reflection selected from Dr. Louis Bell's lists:—

	%
White blotting paper	0·82
White cartridge	0·80
Light yellow paper	0·62
Plain clean deal	0·45
Yellow painted wall—clean	0·40
,, ,, dirty	0·20
Pale pink paper	0·25
Vermilion or blue green	0·12
Deep chocolate	0·04
French ultramarine	0·03
Black velvet	0·004

The rule for finding the total illumination due to the lamp plus the reiterated reflections, in the simplest case of an enclosed room, is :—

$$\text{Total illumination} = \mathrm{I}\ (1 + k + k_2 + k_3 \ldots k_n)$$

where k is the co-efficient of reflection and I the initial illumination ; k being less than unity, the above may be thus stated :—

$$\Sigma \mathrm{I} = \frac{\mathrm{I}}{1\text{-}k}$$

from which it may be seen that if a room lightly decorated has a co-efficient of reflection of 0·7, the total flux of light on any surface would be $3\frac{1}{3}$ times that of the initial illumination. If, however, we take a case of dark walls, etc., say, k 0·15, the total would be only 1·17—no increase worth speaking of. In practice, secondary illumination adds from 25% to 100% of that from the lamps.

Of no less importance is the physiological aspect of contrasts against dark backgrounds, to which I have already referred.

I am by no means advocating white interiors, and uniformly white interiors are fatiguing to the eye if not to the mind ; if white is used, it should be varied just as soft shadows vary relief surfaces. If a darkly decorated room requires more light to lighten it, such depth of color serves no better purpose than to eat up costly light. According to Fechner's law of sensation, contrasts in light and shade are relative and not absolute, and the relation being fixed we are unable to judge of absolute intensity ; so that any scheme of decoration on a somewhat lighter scale may equally meet the artistic sense and afford considerable advantage in illuminating value.

The eye needs relief and rest, and the lower part of a room where the value of reflection is small and where the eye more naturally falls, is the best place for darker areas. Hence, floors should be dark, and dadoes are desirable, but not in too strong contrast to the upper walls.

PRACTICAL APPLICATION.

This paper will be concluded with a few notes on the practical application of the foregoing to churches, schools, hospitals, public libraries and factories—chosen to afford as large a variety of treatment as space will allow. The important subject of domestic illumination was too large to be included in this paper.

CHURCHES.—The simple-minded person would suppose that the beautiful decorations of many churches are placed there to be seen ; but go into the first church you may meet, during full evening service, and you will probably find that the upper two-thirds will be lost in a gloom that is heavy and depressing, while the lower third will be largely obscured by dazzling points of light, and the chancel scarcely visible ; every face will have a hard patchy appearance due to want of diffusion, and if the preacher is at all interesting two inexorable pulpit lights will send you home with smarting eyes.

It is not a question of brilliant lighting *versus* the mystic gloom, which some architects have advocated as conducive to worship. The " dim religious light " of a morning service may have its charms, being usually relieved by softly illuminated surfaces that can be seen with comfort ; but the obscurity of an evening service, pierced by obtrusively brilliant points that dominate everything and refuse a haven of rest to the baffled eyes is not likely to be helpful to worship—excepting by way of penance. This is but one point of consideration amongst many to be found in church lighting.

Treatment will depend upon the style of architecture and many contingencies. Sufficient light for practical purposes is the first consideration—1½ ft. candle at the pew level ; the next is eye comfort, and another is to make the building and its decorations easily and agreeably visible—a quiet general light is all that is required. Chancels are effectively illuminated by lights behind the chancel arch or other projections ; the Guards' Chapel in St. James' Park is so treated, and has a sublime effect. The pulpit and reading desk require 4 ft. candles. Notices and inscriptions should be illuminated. Avoid what has been already described as decorative lighting.

SCHOOLS.—I have examined a number of modern Board Schools, and generally speaking have found the artificial lighting to be (*a*) insufficient ; (*b*) too uneven, having usually but four gas or six electric glow lamps to a class of 40 children, and these too near the centre of the room ; (*c*) in the classrooms unprotected lights in nearly every case in the direct range of vision of both scholars and teachers ; and (*d*) the blackboard which needed more, really had less light than elsewhere, to say nothing of the gloss.

Dealing with the classroom only, there are three methods of lighting, either of which may be made satisfactory.

A. Indirect illumination by high power lamps illuminating a white ceiling and frieze.

SHADE FOR SCHOOL OR WORKSHOP.

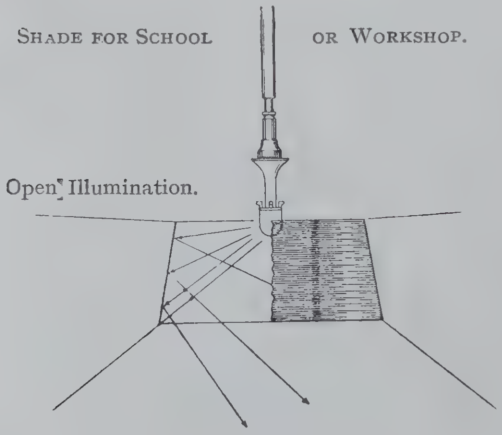


FIG. 12.

B. Direct lighting from ceiling lights pendant about 2 ft., to get diffused light from ceiling and not placed centrally but nearer the left-hand window.

C. If pendants, reaching to 6 ft. 6 in. or 7 ft. 0 in. from floor, are continued to be used, there should be eight or ten of them where there are now four or six, and each should have opaque shades in which the light can be entirely recessed. If the form shown in Fig. 12, be used it will serve also for general illumination, for it will be seen that the ceiling and walls are fully illuminated; the eyes will be protected and the greater intensity concentrated on the desks where it should be a minimum of 3 ft. candles. For pencil drawing and needlework, special desks or tables should have an illumination of 8 ft. candles.

The wall at the teachers' end is the exhibition screen and should be specially lighted with screened lamps giving an illumination of 5 or 6 ft. candles.

There is much else that must be left unsaid, but it may be worth mentioning that a committee, consisting of the School Board Medical Officer, Dr. Kerr, and other officials with certain illuminating engineers, and upon which I have the honor to serve, has been formed to report upon the whole question.

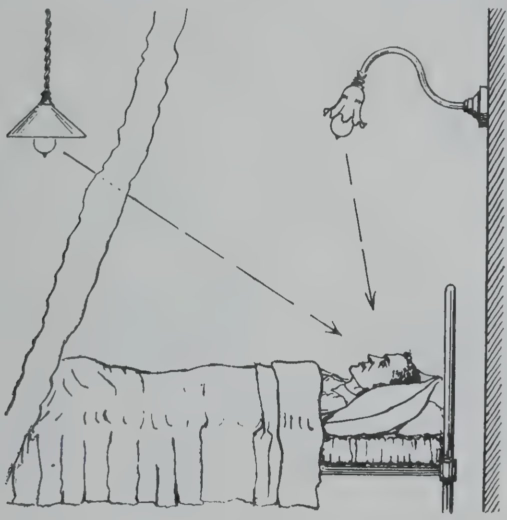


FIG. 13. EXPOSED LIGHTS IN HOSPITALS.

HOSPITALS.—It has been my privilege to inspect many of the principal London hospitals with special respect to their lighting arrangements, and where everything else is so very admirable the artificial lighting reminded me of Miss Nightingale's trenchant observation that "the very first requirement in a hospital is that it should do the sick no harm." There is, obviously, a universal want of discrimination in the modes of lighting, the fittings were generally found to be inappropriate and the "shades" afforded no relief to the stinging points of light that was exposed to the eyes of the sensitive patient and that to the lower and weaker part of the eye. (Fig. 13.)

Briefly, the ward unit, of say 20 beds, should be provided with a general illumination of about 0·5 ft. candles, with protected or indirect illumination. The sisters' and nurses' tables should have lamps adjustable—without dusty cords—to from 3 to 8 ft. candles, the latter for dark needlework, with dark shades that will entirely recess the lamp—preferably dark green opal. The patients' lights are too often conspicuous by their absence, the nearest light, usually a single glow or gas lamp, being 12 or 14 ft. distant; there should be a screened light at the head of each bed, placed low behind and on one side of the head, giving an illumination of 3 ft. candles, and adapted for use for medical examination.

The dispensary is usually the worst served; dispensers have complained of the worry of reading the prescriptions in the inadequate light, while many bottles stand in semi-gloom. A shaded light, giving 4 or 5 ft. candles, is required to each man;

the shelves should be illuminated with screened lights, while special facilities are desirable for reading the graduated measuring glasses.

The operating theatre calls for special consideration, for there is a large amount of surgical work done after dark. Here, again, there is no established form of lighting; each hospital having its own arrangement, not all satisfactory. The essentials to success may be thus summarized: (*a*) White ceilings and walls, pale grey or green dado and darker floor; (*b*) Separate general illumination with screened lamps over the sinks and sterilizers; (*c*) The lights to the operating table should not be clustered together as they commonly are—forming black shadows—nor be placed directly over the table whereby the surgeon's work is obscured by his own head and hands; (*d*) Lamps must not radiate heat on the patient or on the surgeon's head; and (*e*) All septic risks must be avoided; therefore, there must be no dust creating cords and pullies or fittings, and glass must be smooth and easily cleaned. Well-made arc lamps may be used, either (*a*) direct lighting white flame arcs placed over a diffusing ceiling light or where there is no skylight, indirect lighting—both affording a splendid light. There is an excellent scheme in practice in Germany, wherein isolated beams of light are concentrated on the table from a projector lamp outside the room, whereby dust, heat, and the intrusion of workmen are quite precluded.

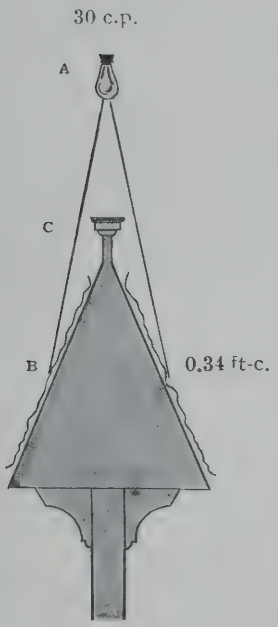
LIBRARIES.—There is, perhaps, no greater tax on nervous energy than continuous reading of educational literature; it is important, therefore, that the further burden of eye strain should not be imposed on the reader by misplaced and inadequate lighting. Better the plainest building where the books can be read in comfort than a marble mausoleum of literature that chills enthusiasm and worries the eyes of the student. I have seen many handsome libraries, but not one properly illuminated.

The ordinary library requires a small measure of well-diffused general lighting—0·5 to 0·75 ft. candles. The principal feature, however, is the local lighting which should consist of (1) a separate light to each reader—on his left—with an opaque or semi-opaque shade; (2) every desk lamp should be adjustable so as to permit of a modification of from 2 to 10 ft. candles, and under the reader's control—anxious librarians may have them made "fool-proof"; and (3) the reader should be expected to switch on and off his own light which would effect a great saving.

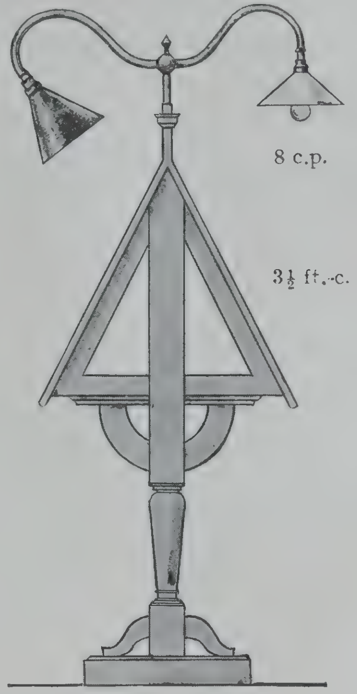
The News Stands are always well patronized. A good light is wanted for them as newspapers are not so easy to read as a clearly printed book. Here is an illustration of waste and bad lighting. In Fig. 14, a 30 c.p. glow lamp does double duty over a double desk. In such a lamp the downward light is but 14 c.p. The lamp is 3 ft. from the centre of desks and the angle of incidence is 12°; the illumination, therefore, is but:—

$$\frac{14 \; Sin \; a}{3^2} = 0{\cdot}32 \text{ ft. candles,}$$

a pitiable result from a 30 c.p. lamp, apart from the shadow nuisance of the puckered paper. In contrast to this there is in Cripplegate Library a stand as Fig. 15, with pairs of bracket lamps of 8 c.p., each so placed that it gives $3\frac{1}{2}$ ft. candles on the page—ten times the illumination, with half the expenditure of light, and no shadows. These are not, however, all that they should be, for whichever way you look the glowing filaments hit you. This could be easily obviated by the use of deep and dark shades directed towards the desks, as shown on the left side of Fig. 15.



News Stand with Top Light.
Fig. 14.



Newspaper Stand, Cripplegate.
Fig. 15.

Where will you find book racks so illuminated that the titles can be deciphered without practically having to dab one's nose on the books? Where is the glazed indicator in the lending department that can be read without being bothered with gloss? Do architects ever think of the irritation caused by the upward reflection from polished table tops? There are many other points but we must leave this for our last subject.

FACTORIES AND WORKSHOPS.—Holland is the only country that has framed an Act that properly stipulates the amount of light to be provided, and where such as embroiderers, jewellers and draughtsmen are required to have a minimum of 15 bougie metres (about $1\frac{1}{2}$ ft. candles), and all others 10 bougie metres. British legislation is confined to enamelling shops and underground bakehouses which are, respectively, to be "efficiently" and "adequately" lighted; expressions which mean nothing in particular, and are therefore, useless. Definite legislation is urgently necessary, for there is still an overwhelming majority of workers under conditions that are ruinous to eyesight and health.

In machine shops the majority of accidents are said to occur after 4 p.m., and no wonder, for brilliant points of light against a dark background must baffle the eyes and deceive as to distances. What is wanted is a well-diffused general light, aided by whitened and illumined ceilings and walls. Nothing is better for this purpose than indirect lighting. Screened local lighting should then be added to all points requiring the attention of operatives and to benches, desks, etc. Money spent in a liberal lighting of factories and workshops is repaid a hundredfold in better and more work.

In conclusion, I am glad to have had the opportunity of bringing this subject before the members of this Society; for I am convinced that until the architect makes the subject his own, little good will be done. True progress is, at present, blocked by the rivalry of competitive systems, and the jealousy and greed of commercialism. The client needs an independent authority, and who more suitable than an architect who thoroughly understands the art of illumination; for as no one can better know how to light his picture than the artist who painted it, so, no one can better appreciate good lighting of an interior than the architect who designed it.

APPENDIX.

NOMENCLATURE AND UNITS.

Light" is used in a general sense only. It involves (1) objective physical energy; and (2) subjective visual sensation.

"Illumination" in its general sense (as in the title of this paper) is synonymous with "lighting," as commonly used; but, technically, it is the light falling upon any surface—the flux density—irrespective of the absorbing powers of that surface. It is expressed in foot-candles or lux.

"Lighting," in a specific sense, includes time—the actual output—and is expressed in lumen-hours.

"Intrinsic brilliancy" is applied to the luminous area of a light source and is definable in candle-power per square c.m. or inch.

"Surface brightness," like the last, is applicable to any bright area but (in spite of Professor Blondel) it is more applicable to reflecting surfaces and is definable in c.p. per square c.m., metre, inch or foot.

Luminosity is that portion of radiant energy which stimulates vision as distinct from that which is spent in heat and actinism. It has been incorrectly used as synonymous with "surface brightness" from secondary sources.

Luminous Intensity or candle power may be given (1) in any one direction, as in the nominal or rated value of lamps; or (2) as the mean of every direction or mean spherical candle-power (M.S.C.P.).

Luminous Flux radiating from a source is calculated on the solid angle and the quantity is expressed in lumens, or in lumens per unit area of the surface subtended by the solid angle. There are 4π or 12·566 solid angle units around a point, the *Total flux* is therefore the M.S.C.P. $\times 4\pi$; thus, one M.S.C.P. yields 12.566 lumens.

Co-efficient of Reflection is usually indicated by k. Every surface both reflects and absorbs something; k is therefore always more than 0 and less than 1.

"Selective absorption" is another expression for color or the power of a surface to absorb certain wave lengths of radiation and reflect others.

Candle power. The term "candle" will probably continue to represent the standard of light, but the statutory sperm candle burning 120 grains per hour has given place to better standards. The International candle and the bougie decimale = 1·11 Hefner candles (HK) and inversely 0·9.

Foot-candle is the measure of intensity of flux in any given direction; 1 ft. c. being the illumination received from 1 candle at the distance of 1 ft. By the law of inverse squares, illumination at any other distance may be easily calculated; thus, a 50 c.p. lamp at a distance of 5 ft. $= \frac{50}{5^2} = 2$ ft. candles.

Lux = Metre Candle. The French lux or bougie metre = 0·093 ft. candle and, inversely, the ft. candle = 10·76 lux, commonly calculated as 10. The German lux or H.K. metre = 0·084 ft. candle and inversely 11·95.

Lumen, a measure of quantity of illumination involving area of surface, arises from the solid angle in the spherical flux from a light source (see "luminous flux" above). When the light falls normally on a surface, the quantity in lumens $= \frac{I \times A}{R^2}$; where I = candle-power of lamp, A area illuminated and R the distance from the source. When the light falls obliquely, the illumination, by Lambert's law, is as the cosine of the angle from the normal.

Colour-true Artificial Light.

Mr. Thomas E. Ritchie, in a paper on "Colour Discrimination by Artificial Light," read before the Illuminating Engineering Society, says, there are few users of artificial light who have not experienced the difficulty arising from the unpleasant changes in the appearance of coloured objects when viewed by artificial light. Whilst it has long been recognized that colour matching can be successfully carried out by the aid of special lamps, provided with suitable filter screens little has been known as to the nature and extent of the changes in appearance brought about in objects of any given colour by any given illuminant; nor as to which of the many artificial lights available would comply most satisfactorily with the particular requirements of the user in this respect.

The subject is of peculiar interest and importance, quite apart from the actual matching of colours. The purchaser or selector of art fabrics, carpets, wall-papers, or decorative schemes, etc., is usually influenced, not by scientific tests but by opinion or fancy, and as articles which are designed or executed under the best possible conditions of diffused day-light, if exhibited in an artificial light are completely altered in appearance; the intention of the designer is entirely frustrated by these visual changes, and the strength of the appeal of the article to the purchaser correspondingly reduced.

The same thing applies with even added force to the selection by the purchaser, possessed of an educated taste, of such general objects as furnishing fabrics, wall-papers, and decorations, pottery, water-colour drawings and oil paintings. The question of the most suitable artificial light, not only for the manufacturer, but also for the subsequent display of such goods therefore becomes of paramount importance to their makers and vendors. It is equally important to those responsible for the lighting of exhibitions of objects of art.

The Table shows at a glance the direction in which each of the illuminants considered meets, or fails to meet as the case may be, practical requirements as regards colour discrimination. The requirements are such as to appeal to artists and designers.

It also makes manifest the fact that inability to secure a really satisfactory, steady, uniform, and sufficiently colour-true light, capable of being maintained at a constant intensity for an unlimited period, cannot longer be legitimately put forward as an excuse for confining classes for the teaching of oil and water-colour painting, designing, etc., to the hours of daylight. The keeping of art galleries and museums containing expensive collections closed after sunset, also points to the use of a colour-true artificial light. It likewise suggests that the effect of the decoration of rooms is directly dependent upon the character of the light used for their illumination, and emphasizes the need for a closer co-operation between the decorative craftsman and the illuminating engineer.

Description of Light Used	Appearance	Colour.					
		Brown	Red	Green	Mauve	Blue	Orange and Yellow
Bright Diffused Daylight	Bluish-White or Pure White	Normal	Normal	Normal	Normal	Normal	Normal
Inverted 'O.I.' Arc Lamp	Bluish-White or Pure White	Normal	Slightly Brighter than Normal	Normal	Slightly Darker than Normal	Normal	Normal
Enclosed Arc Lamp	Bluish-White	Darkened	Lightened Several Shades	Darkened Considerably	Darkened Slightly	Darkened Slightly	Darkened Slightly
Metallic Filament Incand. Lamps	Yellow-White	Lightened and Changed to Reddish Tint	Lightened many Shades	Darkened and Changed to a Yellower Tint	Changed to Redder Tint	Darkened and Changed to Purplish Colour	Brightened and Changed to a more Orange Shade
Inverted Incand. Gas	Greenish-Yellow	Darkened	Lightened many Shades	Darkened and Changed to a Yellower Tint	Darkened and Changed to a Redder Tint	Darkened and Changed to a more Navy Blue	Brightened many Shades
Carbon Filament Incand. Lamps	Orange-Yellow	Reddened in Tint	Lightened many Shades	Darkened and Changed to a Yellower Tint	Darkened and Changed to a Pinker Tint	Darkened and Changed to a much more Purple Colour	Brightened and Changed to a Deep Orange
Ordinary Gas Light	Yellow	Reddened in Tint	Lightened Considerably	Changed to a Yellower Green	Changed to a Pink Rose Coloured Tint	Darkened and Changed to a more Navy Blue	Brightened and Changed to Orange
White Flame Arc Lamp	Bluish-White	Slightly Reddened in Tint	Lightened many Shades	Changed to a Yellower Tint and Lightened Slightly	Changed to a Bluer and Darker Shade	Brightened and Changed to a more Intense Blue	Changed to a Deeper and more Orange Colour
Yellow Flame Arc Lamp	Deep Yellow	Darkened Slightly	Changed to a Brick Red	Deadened and Changed to a Yellower Colour	Darkened Considerably and Changed to a Purple	Darkened and Changed to a more Navy Blue	Changed to a Deeper and more Orange Colour
Mercury Vapour Lamp	Pale Blue-Green	Changed to a Greenish Colour	Changed to almost Black	Lightened Considerably	Changed to a Slate-Blue Grey	Deadened	Changed to a Greenish Yellow

Changes in the Appearance of Coloured Objects under Different Lights.

Correspondence.

To the Editor of "The Journal."

Liverpool Architectural Sketch Book.

Sir,—Your Reviewer in his very kind and appreciative notice of the *Liverpool Architectural Sketch Book*, containing the designs and measured work of the Students of the Liverpool School of Architecture, raises the question why the School devotes its energies exclusively, as he thinks, to the study of classic architecture. He asks whether there is not " too great an insistance upon the study of the Classic and the Renaissance to the utter neglect of the Gothic and of the problems of the small house, school and library ; whether in fact Liverpool is not training a few men to design for the rich, while neglecting to produce architects suited to the real requirements of this country." These, if true, may seem serious charges, and I must ask you to allow me a short space in which to reply to them.

First to be clear as to the facts. The programme of studies of the Liverpool School contains lectures on the history of Gothic architecture in their proper historical sequence, just as it contains lectures on Byzantine and Romanesque architecture. Further, these lectures are supplemented by the solution in the school studio of vaulting problems, which cut to the root of such architecture. But, like the work done in building construction such exercises are not illustrated in the Sketch Book, because they are of no special interest to architects, to whom it is hoped the Sketch Book will appeal.

The teaching of design, however, is a very different matter, and in any thoroughly organized system of architectural education it should be the climax to which all other studies are subsidiary. Building construction, in the broad sense of what is constructable, provides the material out of which designs are to be made, while history explains how these designs must be related to the civilization which is to use them. Now, every architect, unless he would purposely limit his powers of expression and remain on the unimaginative level of the engineer, must in every design he makes, either consciously or unconsciously make use of past forms, to which by association of ideas certain meanings have accrued. Further, every truthful artist must in his heart believe that one past set of forms rather than another gives him a better basis to work upon. No good modern architect is equally good—equally happy in himself when working—at a variety of styles. It is the curse of our age that there is any choice at all. In the best periods of our art there was no such choice. To the great renaissance architects all Gothic architecture was barbarian art, to the great Gothic builders all classical work was pagan and defiled. By making a definite choice therefore, for its students the Liverpool School is attempting to provide again the dogma,—the simple faith which in architecture we call tradition,—the existence of which has always been found necessary to successful work. All educationalists are agreed as to the value of a special atmosphere ; they only quarrel as to what that atmosphere should be. If in the Liverpool studio we diluted our Greek atmosphere with Gothic, as your Reviewer suggests, or even with such rudimentary classic forms as Elizabethan and Jacobean, we should not be able to obtain from students those advanced designs your Reviewer so kindly commends. As it is, each student helps the rest and the work of any single student belongs in a very distinct way to the whole studio.

Your Reviewer goes on to say that by this method of training we neglect the design of the small house, the school and the library, and turn out architects useful only to the rich. The

Sketch Book, however, does not quite bear this out, for the present number contains a design for a small structure—a car shelter—while the previous number contained a workman's cottage, a country inn, a villa and several similar buildings. But, I am perfectly willing to admit we do not lay stress on these things. We feel that in the short time we have the students with us it is more profitable to tackle large work than small. We do not pretend to turn out complete architects. We do not even pretend to teach students the complete solution of any particular problem. Our anxiety is to give students an instrument—a mode of thought—which when the time comes will enable them to solve any problem which presents itself, be it a small house or a palace, a town hall or a church. The other method would be like teaching a few short phrases instead of a complete language. The student would not even speak grammatically, and architecture is more than the grammar—it is the literature of building. Besides, no good or true style in the past has ever been restricted to one set of buildings. There must, I think, be something wrong either with our religion or our architecture if we cannot bring them together, and are driven to some other mode of expression directly we pass from secular to ecclesiastical work. But to return to the student, paradoxical as it may sound, it is better, I firmly believe, to begin teaching design with a palace than a pig-sty—more really practical in the long run. It is really easier to learn proportion and composition from a large building than it is from a small one. No successful public building has yet been designed, or could be at our stage in civilization, as a developed cottage, while many small buildings owe their distinction of style to their implicit relation to higher forms and more complex structures.

Finally then, if we are so divided amongst ourselves,—which with the strong Neo-Greek movement gaining ground daily both here and in America, I do not for a moment believe,—if the age we live in is so chaotic that various styles of architecture must flourish like the varying fashions of women's dress, then I think our schools of architecture should specialize and one take Greek, one Gothic, one simple engineering construction, as its mode of expression, so that when exercises in various styles are attempted, they may at least be scholarly exercises, which at present is generally far from the case.

Liverpool,
January 10th, 1912.

I am, Sir,
Yours truly,
C. H. Reilly,
Roscoe Professor of Architecture.

The Society of Architects' Lodge of Freemasons.

At the last Lodge Meeting, it was agreed that the meeting place of the Lodge be transferred at the earliest convenient date from the Great Eastern Hotel to the Holborn Restaurant.

The business transacted included the admission of several new members and proposals for further admissions, and the Lodge voted a sum of Five Guineas (£5 5*s.*) to the " Driver " Fund.

The "Driver" Benefit Fund.

The Council of The Society of Architects have voted a donation of Twenty Pounds (£20) to the "Driver" Fund, which the Secretary has had the pleasure of handing to the Trustees, together with a contribution of Five Guineas (£5 5*s.* 0*d.*) from The Society of Architects Lodge of Freemasons, making a total of Twenty-five Pounds, Five Shillings (£25 5*s.* 0*d.*).

As will be seen from the following letter which the Secretary has received from Mr. Arthur Keen, F.R.I.B.A., one of the Trustees, it is hoped to raise at least Five Hundred Pounds (£500), and if there are any members who would like to send their contributions through the Society, they will be gladly received and forwarded to the proper quarter.

4, RAYMOND BUILDINGS, GRAY'S INN, W.C.,
January 19*th*, 1912.

DEAR MR. MCARTHUR BUTLER,

The "Driver" Fund.

It is really very kind and generous of The Society of Architects to give such substantial help with the "Driver" Fund, and I very much appreciate the contribution from The Society of Architects Lodge of Freemasons. Will you please convey to the members of the Society and to the Brethren of the Lodge my cordial thanks for their kindness.

Including these donations the total of the Fund is now £488 5*s.* 0*d.*, and in addition to this the Association is contributing £100 in four instalments. The contributions are still coming in from members of the A.A., and I have some hope of getting help from the Architects Benevolent Society. Altogether the result exceeds my expectations, and it speaks very plainly of the respect and regard felt for Mr. Driver. He was always kind and helpful, and his industry was quite extraordinary; and there is no doubt that the Association owes very much of its success to his individual exertions.

With kind regards and renewed thanks,

Yours very faithfully,

ARTHUR KEEN.

C. MCARTHUR BUTLER, ESQ., F.C.I.S.,
The Society of Architects,
28, Bedford Square, W.C.

New Parliament Buildings, Winnipeg.

The Secretary of the Office of the High Commissioner for Canada has been notified by cablegram from the Minister of Public Works of Manitoba that the date for acceptance of competitive plans for the above has been extended to March 31st, 1912.

The Royal Institute of British Architects and The Society of Architects.

THE PROPOSALS REFERRED BACK.

Some further delay in the already protracted negotiations, is indicated by the report in the *R.I.B.A. Journal* of January 13th, of the Special General Meeting of the Royal Institute, held on Monday, 8th January, 1912, when the President formally submitted to the Meeting the draft Agreement proposed to be made between the Royal Institute and The Society of Architects with reference to the admission into the Institute of the members of the Society.

Mr. J. S. Gibson, F.R.I.B.A., moved, in the terms of the Resolution printed on the Notice Paper previously issued to all members, " that the Agreement proposed to be made between the Royal Institute and The Society of Architects and which is now submitted to this Meeting be and the same is hereby approved, and that the President be authorised to sign the same on behalf of the Royal Institute, and that after the same shall have been signed by both parties the Council do proceed to carry the same into effect and do present a Petition to His Majesty's Privy Council praying for the grant of a Supplemental Charter with By-laws in the form set out in the Second Schedule to the said Agreement as now approved."

Mr. A. Needham Wilson, A.R.I.B.A., seconded the Resolution.

Mr. C. Stanley Peach, F.R.I.B.A., moved as an amendment that the Agreement be referred back to the Council for further consideration, and this was seconded by Mr. Herbert Shepherd, A.R.I.B.A.

In the discussion which ensued the amendment was strongly supported, and the Chairman's suggestion to adjourn the discussion was met by a proposal that the amendment be forthwith put.

The amendment was thereupon put from the Chair, and having been voted upon by show of hands was carried by a large majority.

From communications received from members of the Society it is clear that the opposition to the proposals in their present form is not confined to members of the Royal Institute, but that in both bodies there is a considerable section of the membership which, from an entirely different point of view, objects to some of the details of the scheme.

The Society at present as a body is not called upon to express an opinion by vote, the scheme being still under consideration by the Royal Institute, but the individual views communicated by members of the Society no less than those voiced by members of the Royal Institute in open meeting, must have considerable weight with their respective Councils when they come to deal with the new situation which has arisen.

The Crystal Palace Grounds as an Open-Air Museum.

Some years ago a writer in *The World's Work* advocated the establishment of Open-Air Museums* for such objects as ancient buildings. Many structures of this kind are unavoidably demolished from time to time and the idea is to re-erect them on some suitable enclosed site and then gradually form a museum of typical buildings of architectural and historic value.

An example of this may be found at Lyngby, near Copenhagen, where a number of typical specimens of domestic architecture from Denmark, Norway, Sweden, the Faroe Islands and Iceland have been re-erected.

It is interesting to note that the suggestion then made for the matter to be taken up by a representative Committee has been adopted, probably unconsciously, by a number of antiquarians and archæologists who have recently submitted to the Committee appointed to consider and report upon the various schemes for the future utilization of the Crystal Palace and its grounds, a proposal for the formation of a National Folk-Museum, on the lines of those established at Stockholm, Christiania, Copenhagen, Helsingfors, Moscow, Berlin, Paris, Budapest, Sarajevo, and elsewhere.

The Northern Museum at Stockholm, with its offshoot the Open-Air Museum of Skansen, is, says *The Times* report, a splendid and representative assemblage of objects illustrating the folk-culture of the Scandinavian peninsula, and comprising all such things as throw light upon the daily life, occupations, and amusements. Obsolete and fast-disappearing appliances relating to local crafts and industries, and objects bearing on the life and habits of various classes of the community, find a prominent place.

In Skansen a large and diversified tract of land is appropriated to an Open-Air Museum. Here a number of ancient cottages and larger houses from various parts of Sweden have been re-erected and completely furnished according to their several kinds. Farm buildings, church belfries, mills, May-poles, and various outdoor relics of a past age have been rescued and placed in appropriate surroundings.

The proposal, therefore, is to acquire and re-erect in the Crystal Palace grounds ancient buildings from different parts of the kingdom, with scrupulous regard to their original features. The Crystal Palace itself would serve for the display of developmental series of furniture, pottery, glass, ironwork, textiles, etc., and for collections illustrating the customs, distinctive beliefs, amusements, personal ornaments, inventions, etc., of the English peoples. The ample dimensions of the building would enable some of the collections to be arranged as "interiors"; thus there might be a "Chippendale" room, a "Hepplewhite" room, or a "William Morris" room.

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* See *Journal of The Society of Architects*, Vol. III., New Series, page 415.

Mainly about Members.

We regret to hear of the death, on October 5th last, of MR. W. H. LINTON, Member, of Stockton-on-Tees, news of which has only now reached us. The late Mr. Linton was one of the original members and founders of the Society, and though he took no active part in its affairs, he was a consistent supporter of its policy, and by his death the Society loses an old and valued member.

MR. C. ORLANDO LAW has moved his offices from "Dacre House," Arundel Street, Strand, W.C., to 15, Rossetti Mansions, Cheyne Gardens, S.W.

The Partnership heretofore subsisting in the business of architects and surveyors, carried on at The Broadway, Woking, under the style or firm of Messrs. Jones & Hunt, has been dissolved by mutual consent, and the practice will be carried on by WILLIAM GEORGE JONES, one of the late partners, at the same address.

MR. CHAS. CRESSEY, formerly of Morecambe, Lancashire, has entered into partnership with an old established firm of architects in San Diego, California, under the title of "Quayle Bros. & Cressey." Work in hand includes two theatres, a five-storey reinforced concrete County Jail, and a Polytechnic School group recently won in competition. The latter consists of three buildings, viz.: for Domestic Arts, Fine Arts and Auditorium, and Manual Arts. Cost $200,000.

At Maulden, Beds., the Duke of Bedford has established at a cost of about £5,000 several small holdings (on an ownership scheme of repayment in 30 years). The buildings are mostly in creosoted timber, with Lincolnshire pantile roofs, with houses suitable for working farmers on 40 acre holdings, and have been designed and carried out under the direction of MR. W. B. STONEBRIDGE, Architect, Bedford and Woburn Sands. It is interesting to note that the timber buildings (available and suitable for such holdings) were erected for 3d. per ft. cubic.

The American descendants of Rev. Peter Bulkeley, who sailed in the "Mayflower" to America, and founded the City of Concord, Mass., a sometime Rector of Odell, Beds., are proposing to commemorate their "Pilgrim Father's" memory, in the restoration of Odell Church Tower, formation of a Vestry, a "Peter Bulkeley" Memorial Window, and rehanging of Bells (by Bowell, Ipswich), under the direction of MR. W. B. STONEBRIDGE, Ely Diocesan Surveyor, who would be pleased to receive from any members the loan of any prints or engravings of the "Mayflower" and its associations.

Ordinary Meeting.

The Fourth Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, February 8th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Paper on "Housing." By Mr. E. C. P. MONSON, F.R.I.B.A., F.S.I. (Vice-President). To be illustrated by lantern slides and plans.

Light refreshments will be served after the meeting.
Smoking permitted.

Students' Smoking Concert.

The Students' "Smoker," held at the Society's headquarters, on January 18th, fully realized the expectations of its promoters, and its success leads one to hope that it may be followed by other similar gatherings during the Winter Session.

A first-class musical programme had been arranged by the Committee, and, with the exception of a brief interval for refreshments, the whole of the evening was pleasantly occupied in the enjoyment of the excellent items forthcoming under the direction of the Chairman of the Section, Mr. H. V. Milnes-Emerson, A.R.I.B.A.

The Committee had been fortunate in securing the services of several artistes who have made themselves popular on similar occasions, and the efforts of Miss Hilda Campbell, Miss Dorothy Eales, and Mr. Harry Jackson were ably seconded by a number of members, students and friends, including Mr. R. Willock, F.R.I.B.A., Mr. Frank Windsor, Mr. Walker, Mr. C. W. Boyce, Mr. Wilfred E. Kelly, Mr. A. F. Davies, Mr. B. Sheffield, and Mr. Walters, all of whom met with a very hearty reception from an appreciative audience, encores being frequently called for and acceded to.

At the conclusion of the entertainment, the Chairman expressed the thanks of those present to the performers, some of whom had come from a considerable distance and at some personal inconvenience.

The Secretary followed with a brief reference to this work of the Section and the opportunities for development, and a hearty vote of thanks to the Chairman brought a successful evening to a close.

THE

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

How the Copyright Act affects Architects.

The Council of the R.I.B.A. have adopted the report and recommendations of the Committee, on the Clauses of the Copyright Act which affect architects, which are published in the Journal of the R.I.B.A.

The Committee express the opinion that the general effect of the Act will be as follows :—

(*a*) The recognition of architecture as "artistic work" entitling it to the same protection as painting and sculpture.

(*b*) The first production of an architect's work whether in the form of a drawing, model or building, secures to him the right of repetition or reproduction.

(*c*) If an architect sells his Copyright, the drawings or models made by him for the work, may be used again if he does not repeat the main design.

(*d*) Measured drawings of his building may not be made or published without his permission.

(*e*) Copyright holds good during the lifetime and for fifty years after the death of the author.

(*f*) Where the architect does his work under a contract of service with an employer, the Copyright belongs to the employer.

(*g*) Damages can be claimed for infringement of Copyright, but an injunction to restrain the erection or an order for demolition cannot be obtained if a building has been commenced.

Proceedings.

THE Fourth Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, February 8th, 1912, at 8 p.m.

MR. PERCY B. TUBBS, F.R.I.B.A., Vice-President, having taken the Chair, in the unavoidable absence of the President, it was resolved that the minutes of the previous Ordinary Meeting, having been printed in the Journal, be taken as read. The minutes were then confirmed and signed.

Five nominations for membership and fifteen for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

CHART. CHRISTOPHER, F.S.I.,	Union Bank Chambers, Croydon.
COULDREY. WALTER GEORGE,	19, Palace Avenue, Paignton.
DARTNALL. JAMES AMBROSE,	Forest House, High Stone, Leytonstone.
FIRTH. JOSEPH PERCY,	Southgate Chambers, Wakefield.
HUBBARD. WILLIAM HENRY GUEST,	51, Guildford Street, Luton.
MEDCALF. RUPERT,	7, Moorfields, Liverpool.
MEDCALF. THOMAS BENYON,	„ „
NEWTON. GEORGE,	35A, Old Christchurch Road, Bournemouth.
THOMPSON. JAMES,	George Street, Alderley Edge.
YOUNGMAN. LIONEL STANLEY,	35A, Old Christchurch Road, Bournemouth.

As Students :—

CLUTTERBUCK. JOHN SAMUEL,	10, Almeric Road, Battersea Rise, S.W.
LOW. HARRY CHARLES,	West Borough, Wimborne.
RHODES. HERBERT,	21, Brighton Range, Gorton.
SHEFFIELD. HERBERT WILLIAM,	Harcourt Square, Earl's Barton.
WILSON. DOUGLAS MURRAY,	Wardhill, Broadgate Lane, Horsforth.

MR. E. C. P. MONSON, F.R.I.B.A., Vice-President, then read a paper on "The Housing of the Working Classes," which was illustrated by plans and lantern slides.

MR. H. FREYBERG, F.S.I. (London), in proposing a vote of thanks to Mr. Monson, said that everything seemed to move in circles. The first of the admirable series of photographs which the lecturer had exhibited depicted the underground quarters of prehistoric man, and it was only quite recently that he had discussed the question of underground rooms for modern town residences. The slides which followed illustrated what he believed was known as the "whattle and daub," *i.e.*, sticks and wood, style of architecture. In the present day he passed many such buildings in course of erection in various thoroughfares, and saw many stanchions in place of sticks, and a great amount of earthy matter, which though technically known as concrete, again completed the circle. He agreed with Mr. Monson that the better housing of the working classes was one of the pressing questions of to-day. For the last two or three centuries if not more, so far as their towns and cities were concerned, the subject had been entirely neglected. They had now to make up for that neglect, and strive as they might they could not expect to do it all at once. They had not only to erect new and sanitary buildings for those who could not provide these necessities for themselves, but they had also to do away with those insanitary spots in London that had grown up in past years, and the difficulty was that as fast as slum areas were cleared away in one district they blossomed out in all their fruitfulness in another. It was impossible for individual effort to go on unaided, and it was of no great practical value for any Municipality to clear away slum areas in their own district if the occupants were allowed to settle in others. His interest in the subject was very keen and he very much appreciated the result of the careful study and experience of the lecturer.

Mr. G. A. T. Middleton, a.r.i.b.a. (Past Vice-President), in seconding the vote of thanks said he would confine his remarks to the earlier portion of the lecture, leaving it to others to deal with the modern side. Mr. Monson had said that in early days—in England at all events—houses were grouped close round the castle walls. The house shown in the example with which Mr. Monson illustrated his remarks had obviously been built a long time after the castle was erected, and for military reasons it was absolutely imperative that no houses should be under the castle walls. It was the moat which invariably ran close round. In the case of Fougères in France, which was the most perfect example of a castle and town adjoining he knew of, the castle was separated from the town, which had its own walls. There were gates between and the moat, spanned by a drawbridge, separated one from the other. This applied to almost all mediæval towns on the continent, the castle being built close to the town to protect it. In England we were differently situated, ours being in those days a more peaceful country than France; we had our little village communities right through the 12th, 13th and 14th centuries very much as they were at the present day; each man living in his own cottage—king of his own castle—a style of living which was considered the best for the workmen of to-day.

Mr. Henry R. Aldridge (Secretary of the National Housing and Town Planning Council), in supporting the vote of thanks, said that Mr. Monson was doing what was absolutely essential at the present time in trying to work out from the architects' point of view some of the most difficult housing problems. It was comparatively easy when they had unlimited means at their disposal to design a middle-class house which would readily meet the tastes of the client and provide him with a comfortable home, but when they had to deal with the problem of the maximum of room at the minimum of cost it became a very different task. Mr. Monson had done very practical work in designing the better type of workman's cottage, and he (the speaker) very much appreciated his services in this direction. The poorer types of workmen in England, those breadwinners earning no more than 18*s.* or £1 per week, were largely beyond the scope of housing effort. Taking the standard set out by Mr. Monson of what a good home should be ; with three bedrooms on the upper floor there must be a corresponding number of rooms below, fireplaces on the ground floor to correspond with those above and so on. In fact a well equipped home with bath really meant a five-room cottage, which could not be built in any part of the country to let at an economic rent of less than 5*s.* to 7*s.* per week. It was well, he thought, that they should realize their limitations. They were often asked to solve what was from their point of view an insolvable problem, for in dealing with the poorer workman it was not so much a question of housing as of wages, and the only way to deal adequately with it was to raise the standard of wages and so raise the standard of accommodation. It might be a confession of weakness but he thought they would ultimately gain strength by that confession and thus getting their problem within range. Mr. Monson had raised the question of the lay-out of estates and one realized that the plans of model villages designed within even the last five years were, as a result of the new Town Planning Act, completely out-of-date. Those engaged in estate development had declared that the cost of the roads frequently equalled the cost of the land, but was it necessary that roads which only had to carry a milk cart should be made strong enough to take a traction engine ? There was a type of development which the ordinary Medical Officer of Health had rightly condemned, viz., the *cul-de-sac ;* but was there anything very wrong with a scheme which provided a *cul-de-sac* containing only twenty houses, with a 20 ft. road and the houses set back 30 ft. making a distance of 80 ft. from house to house ? It was quite possible, he thought, to get Mr. Monson's ideas brought in with due economy, and unless economy went hand in hand with development they would never get town planning to help the people it was intended to benefit. The " grandiose " type of Germany was admirable from their point of view in their desire to build notable towns, but in England town planning would have to be dealt with on different lines, taking the home as its starting point instead of the boulevard as in Germany.

MR. NOEL D. SHEFFIELD (Member), said that the title of Mr. Monson's paper might have been " The Housing of the better class and better paid workman." The class of men and women who might be called casual labourers seemed quite beyond any scheme for promoting their welfare. In many cases it was the occupier who made the slum, and even if persons of that type were shifted to a popular district amid healthy surroundings, they would very soon convert the whole neighbourhood into a slum area. That particular class of tenant, too, usually insisted that the walls should be papered and not distempered, but changes of tenancy were frequent, which involved the stripping, fumigating and repapering of the rooms, whereas, if distemper was used, all such expensive work could be dispensed with. Referring to the provision of baths in the houses of working men he questioned whether these were ever used, as on several occasions he had been asked to take them out on account of their bulk. With regard to the question of parlours, Mr. Monson had frankly stated that there was a difference of opinion on the subject. He (the speaker) thought they were somewhat unnecessary as it was only on festival days that they were used and social life generally in them was practically non-existent. He was curious to learn how the dust and house refuse was disposed of from the top storey of block dwellings, and wondered whether the tenants acted as he had witnessed some of them act in a number of villages of France by throwing the refuse out of the windows with dire results to passers-by. Block dwellings were used to a great extent by poor women who were compelled to earn their own livelihood, and he put forward the suggestion that if possible in every block of dwellings a large and airy room preferably on the ground floor, should be provided and fitted up as a crèche, under the care of a matron, who need not necessarily be a trained nurse. Turning to the garden city arrangement, joint passages between the houses were economical as they saved frontage without any apparent diminution of the front garden. He considered housing schemes must be to a large extent philanthropic as few business or commercial men would spend large sums of money for a mere 2½% return. Municipalities, of course, could always fall back upon the rates. He questioned whether the British workman had much to grumble at seeing that the lower classes paid a very small proportion of the rates for educational purposes, were able to obtain free medical and surgical attendance at the hospitals, books were theirs for the asking, and many charities existed for their benefit, with almshouses for the aged.

Mr. Chas. F. Mitchell (Member), said he felt it was their duty to see whether it was not possible for those earning 18s. to £1 per week to be made a real asset to the State by the improvement of their social conditions. It certainly did appear, at first sight, an insolvable problem, but he thought experience would show that the difficulties to be met with were not insuperable. He was glad that it was in the cottage rather than the block dwellings system that the solution lay, because in giving a man a house of his own with plenty of garden space and a common ground for the children they were giving him the joy of life. Villages had been built in the past around their commons with enormous benefits to the community, and unless they provided a piece of land of about ten acres as a common open space and play-ground, in the neighbourhood of their garden cities, they would never satisfy the requirements of those for whom they were striving. He was very pleased to notice that companies like the Letchworth Garden City and the Ealing

Tenants had given the children play-grounds of their own. Sooner or later means would be found of augmenting the 2½% return which had been mentioned. They were getting nearer to the solution of the problem and meetings such as the present one did much to bring about the desired result.

MR. F. ENDELL ROSSER (Member), agreed with the lecturer in his advocacy of the parlour, which he thought, gave to the working man and woman a certain amount of self-respect. The man, on Sundays for instance, wanted to read his paper and not to be in the room where the cooking was in progress, or where the children might be at play. Wherever possible, he always included a parlour. He saw no objection to a *cul-de-sac* under the conditions suggested, and thought a nice effect could be obtained by running the front garden through at the two end houses and placing a house at the other end facing down the *cul-de-sac*. A great saving in road charges would thereby be effected.

ALDERMAN W. THOMPSON (Chairman of the National Housing and Town Planning Council), expressed his appreciation at being permitted to attend the meeting, and said he owed a personal debt to Mr. Monson for much professional advice and assistance. Their lecturer always maintained a spirit of hopefulness, though the remarks of a previous speaker reminded him that the younger generation usually struck a pessimistic note at first. The British workman was not so hopeless as was suggested, although it was unquestionably true that in some cases transference from the environment of a slum to better surroundings had little good effect. It was for the children, however, for whom they could do so much, and for whom fresh air and sunlight were of such vital importance. He had had under observation a number of typical families with a view to seeing the effect of better surroundings, invariably with satisfactory results. It was most valuable to be able to study the history of a town or a village, and to see how the change worked out in human life. He had in mind a typical case of a man who had contrived to exist in the neighbourhood of Red Lion Street, who was frequently out of work, often in ill health, and had lost two or three of his children, and who at last had the courage to turn out and take a house amid decent surroundings, paying 2*s*. 6*d*. per week more for three or four bedrooms instead of renting one bedroom and a hole. The result of his better conditions of living was that he saved the lives of the rest of his children, enjoyed better health himself and had declared that the extra amount paid in rent was compensated for by his garden and the fact that his children were able to earn a little instead of being kept at home as invalids. If the State was justified in finding large sums of money to deal with the products of slum areas, and it was from those places that the hooligan and the rioter sprang, then he thought it would be equally justified in subsidizing schemes for the better housing of the working population, seeing the vast importance of the human element in the problem before them. It was not the man living under decent conditions that rioted in Liverpool and South Wales, but the hooligans from the slums at both of those places. They had proved themselves brutes, and not human beings, and if Society permitted such a class to exist, the duty was placed upon it of alleviating the unhealthy condition of their lives. He would rather see the housing movement subsidized than the workman's wages risen; the extra money obtained from the State earmarked, so to speak, to ensure the working man living under decent conditions. Those concerned in the movement had held out solidly for a certain standard of comfort, which should not be reduced under any circumstances. He believed in the working man's parlour, as it increased the occupier's self-respect, and when they possessed that the solution of the other problems was not far off. He was not altogether sure that they could solve the problem of the country village without a subsidy of some kind. They all made up their minds some time ago that it was necessary as a commercial undertaking that a three-bedroom cottage should be built for not more than £150. Capable men had laughed at them and expressed the view that it was impossible to reduce the cost to that figure, but they had been completely floored by the fact that it had since been done. It was only here and there that they were able to do this, and it must be borne in mind that they were as yet in the experimental stage; the first motor car was not a cheap one, and much thought and care would yet have to be exercised before the desired result was achieved. They would have to seek out the weak points, weed out whatever could be dispensed with in the modern home, and eliminate the amount of labour necessary in the construction of a house, a matter in which they were only on the fringe. Architects had only recently, comparatively speaking, turned their attention to the cheap house. It had never paid them to give the matter serious thought; the design of a cottage and the superintendence of its erection required as much care and trouble as larger work, and when it was completed the result of their efforts was often "lifted" by builders and others almost to the brick without any kind of fee. If architects could devise some reasonable means, without putting any unfair oppression upon the production of houses, which would protect a man who had possibly given his life to the consideration of the subject, they would be justified in asking Parliament to accede to their demands. The present Copyright Act was not strong enough to deal with the trouble. So far every house erected on their estate had been designed by a qualified architect; every house would have to be examined by an architect and they would insist upon having a competent man for every house put up. The average number of houses to the acre there was not more than six. The maximum number was twelve to the acre, and the opinion throughout the country seemed to be hardening on the question. The zone system of streets radiating from the centre would have to be adopted when land was purchased which already had houses standing upon it. There could not be a slum within ten square miles of their estate, so that their neighbours benefitted by their scheme. On an estate of 200 acres in extent, 20 acres were given up to open spaces. The problem before them would be very much simplified by carrying out one or two practical schemes on well laid out estates. £150 seemed to be about the limit, but if it were possible to get below that figure with dignity and self-respect it would be well to do so. Meetings such as that before which he was speaking stimulated thought and directed the attention of professional men to the matter. All other social problems, the sores and vices of human life would end when sunshine and air could get to the people. In properly constructed houses, with all deleterious matter removed, the lowest could live in decency and some degree of comfort. It was to the future that they all looked for the culmination of their labours, and who knew that they would not be present in some form or another when all cities would be garden cities and not the breeding places of the abominable evils which desolated so many cities of to-day.

Mr. Ewart G. Culpin (Secretary of the Garden Cities Association), said that it was a glad sign for housing reformers that architects were taking up the subject. They had all suffered from the deadly monotony of streets of houses erected from builders' plans, the cost of building and establishment charges being out of all proportion to the result obtained. It was also very gratifying to know that the Sutton Trust was developing the garden suburb in some of its centres on plans prepared by Mr. Monson. The lecturer had proved his point that the block must give way to the cottage, which from every point of view must be the unit of town development. Reference had been made to the conditions of the worker and the influence of housing upon the conditions of industrial life. At a recent meeting of the Garden Cities Association, a speaker from South Wales, an eminent student of the problem, gave it as his opinion that a great deal of the industrial unrest in that part of the country was due to the state of the housing which prevailed there. He had spent the last three months in South Wales examining the conditions, and it was a common thing to find houses built on a hill side with one and sometimes two storeys backed by the earth itself without any possibility of ventilation. It was bad enough with one room only on each floor, but often two could be seen and the plans of those buildings had been passed by the local authorities within the last three to five years in spite of the protests of their Medical Officer of Health. One house he visited contained rooms such as he had described with no less than five beds in each, which on enquiry, he found were occupied in turn by miners as they came up in their different shifts, and the Medical Officer had been unable to get them condemned. The waste of life to which Alderman Thompson had referred could be seen in the figures of the comparative death rates of large towns and garden cities. The death rate of Birmingham was 17, that of Bournville only 7, and while the infantile mortality of the former was 170, the latter was as low as 70. He agreed with Mr. Aldridge that the narrow type of subsidiary roads could be made provided always that the distance between the houses was maintained. They were told by the Harborne Tenants that the rents of their houses were from 7*d.* to 9*d.* per week less owing to the narrower grass-bordered roads which had been constructed, than they would have been had the heavier mode prescribed by the Bye-laws of the Birmingham Corporation been adopted. There they had striking evidence direct to hand of what better, healthier, and less cumbersome methods of construction resulted in. One had only to go and examine the condition of families whose bread winner worked in the factories at Letchworth to see the effect of better surroundings. Employers, the same for whom the men had worked in London factories, would tell them that the men did better, steadier, and finer work than before, and that the wives and children were improved physically and morally, and their monetary condition was easier. Without doubt it was evident that the cottage was going to be the salvation of the worker, and that the open spaces of the garden cities would do for their children what the private park and garden did for the children of the wealthy.

The Chairman after a few appreciative remarks put the motion to the meeting, and a hearty vote of thanks was unanimously accorded to Mr. Monson for his lecture.

Mr. E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President), in reply, expressed his appreciation of the way in which his paper had been received, and said he had purposely left out all reference to the cost of road making owing to the limits of time and space. He concurred with the statement that their cost in many cases exceeded the cost of the land. The block dwellings shown were erected for the Sutton Trust, who let a one-room tenement for 2*s.* 6*d.* on an average, but it depended upon the situation and the size. The one-room tenement was a large living room, with plenty of space for a bed, a scullery bath room and its own separate offices. The two-room tenement contained a living room, bedroom, scullery bath room, and usual offices, and let at 5*s.*, three-room tenements at 7*s.* 6*d.*, and four-room at 9*s.* or thereabouts. Very great care was taken in regard to the type of people who were allowed to become tenants. They were not intended for the prosperous man who could afford more, but for those of the deserving poor, who had no trade and could only earn a small wage. He was open to correction, but so far as his memory served him, the one-room tenements were reserved for those earning not more than £1 per week; two rooms for those getting 22*s.* 6*d.* and three rooms, 25*s.* Under these circumstances, and after allowing 40% for rates and taxes, etc., they got a 2½% return upon their outlay, and it would be a good thing if other people would be satisfied with that instead of trying to make large profits. At Birmingham they hoped to be able to let a six-roomed house, containing living room, parlour, three bedrooms and bathroom for 5*s.* 9*d.* per week. With regard to the question of paper *versus* distemper for walls a great housing reformer, Mr. Lovegrove, of Hornsey, had recently advocated paper because with the class of tenant they were catering for, distemper was apt to get very much rubbed and got into a greasy dirty condition which would never wash off, whereas, with paper the walls could easily be stripped and repapered. Vermin was another question, but with care and proper attention it would become, he thought, a thing of the past. With regard to the removal of dust and house refuse that was quite a simple matter. Every tenement had its own dust pail which was perforated to prevent its misuse by the occupier, and it was one of the duties of the superintendent of the dwellings to see that the dust pail was emptied once every day into the dust bin provided for it. In Liverpool, they had a system of dust shoots with automatic flaps, one dust shoot to every two tenements, and the refuse fell directly into a large receptacle at the bottom of the shaft, but this was not advocated.

It was quite possible to build a cottage for £150. He had a few days ago obtained an estimate from a builder for houses in connection with the Banbury Competition and the builder could erect the house to his design for £135. The accommodation provided was two bedrooms, living room and a scullery bath room. There was hardly any passage room and the whole thing was about as compact as it was possible to get it. The great secret was to get the whole of the rooms under one roof with no outbuildings. Mr. Middleton had criticised his remarks concerning the mediæval custom of building close up to the castle walls. The criticism was perhaps deserved and the house shown in his illustration was palpably of a later date than the castle, but what he had meant to convey was that the castle dominated the houses about it.

The proceedings then terminated.

Twenty-eighth Annual Dinner.

Presentation to the President.

The twenty-eighth Annual Dinner of The Society of Architects will be held in the King's Hall, Holborn Restaurant, on Friday, April 26th, 1912, at 6.30 for 7 p.m. Tickets (members and visitors, 7/6 each, exclusive of wine) may be obtained from the Secretary.

During the evening, the gold medal of the Society will be presented to Mr. Geo. E. Bond, J.P., President, in recognition of his long and valuable services to the Society.

The Housing of the Working Classes.

By Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., Vice-President, S.A., and a member of the Permanent General Committee of the National Housing and Town Planning Council.

In introducing this subject to you I can only touch slightly upon its fringe and deal principally with one point, namely, the problem of to-day in providing suitable housing accommodation for the poor worker or artisan and such as would be provided under the Housing clauses of the "Housing and Town Planning Act" and other such-like Acts.

I have particularly kept the Town Planning side out of the question, because with that added it would be an impossible task to adequately do more than open the question.

"Housing" is a problem which has been a source of worry to all classes in all ages, and although vast improvements have taken place it is still not now settled, and perhaps at the present time gives rise to more discussions, theories and arguments than any other subject.

In this country even the Driftman and cave dwellers in pre-historic ages must have had their troubles to find suitable places for their homes, the lake dwellers were doubtless equally perplexed where to erect their houses, while the ancient Britons and even the stately conquering Romans had difficulties in deciding how their houses should be built to suit the climate and their needs. Then came a lapse when the Romans departed and things stood still and even went back, but afterwards we find the strong fortified Norman castles with their high keeps and frowning and embattled walls and wide moats. As the power of the Barons, however, gradually became less, or shall we say the power of the people began to assert and organize itself and the desire for more comfort and quietude arose, law and order as the natural consequence became established. So we come to the charming Tudor houses of the period, which were much less aggressive and far more comfortable and which I consider is the period when it may be assumed that houses for other than the Lord first became to be erected. Previous to that the worker had either lived in the lowest storey of the Lord's castle, and occupied the position of a servant, or else had occupied a shanty erected under the shadow of the walls of the castle and was a Serf of the Lord.

Hallam, in his *Middle Ages*, says "It is not very easy to discover any large fragments of houses inhabited by the gentry before the reign, at soonest, of Edward III, or even to trace them by engravings in the older topographical works, not only from the dilapidations of time because very few considerable mansions had been erected by that class, and it is an error to suppose that the English gentry were lodged in stately or even in well sized houses. Generally speaking, their dwellings were of wood with stone in the intervals, and almost as inferior in capacity to those of their dependants as they were in convenience.

" The commonalty, except those here and there in the west country towns and a few in the City of London whose houses were of stone, lived in places which were all built of wood. Cottages seem to have generally consisted of a single room without division or storeys, chimneys were unknown in such dwellings till the early part of Elizabeth's reign when a rapid and sensible improvement took place in the comforts as to housing of our Yeomanry and Cottagers."

After that we find the Jacobean and debased Gothic periods ending with the quaint Queen Anne residences, afterwards the Georgian types of dwellings, and finally the Victorian and shall we say present day methods.

In the 18th and 19th centuries, great strides were made in building houses for the middle and poorer classes of the community, and in London itself many hundreds of streets were laid out and developed about that time. In fact, previous to then, London was more or less a small place to what it so soon afterwards became, owing to all sort of restraints, Acts of Parliament and the like which had been attempted and passed to keep down house building. Many of these areas however which were so hurriedly covered with speculating built houses soon came to grief and developed into slums, and besides being insanitary, were badly designed, and numbers were built either on the old-fashioned back to back principle or else provision was made for only a very small back yard, and only in the cases of the large and more important houses was there any more than a very limited air space provided, and anything was thought to do for the poor. These are now being or have had to be removed to make way for something else. Better houses however were built fronting around a square which of course was what we consider more up-to-date.

The housing of the working classes in the most sanitary and up-to-date dwellings is of importance because it is from our sons of toil that we have to look for the working of the " National Machine," and if the parts are not kept in the very best condition the machine must of necessity go wrong and break down, but thanks to the munificence of such men as Mr. Peabody, Mr. Lewis, Mr. Guinness, Mr. Sutton and many others who have lavishly given or left of their substance for the acquisition of sites and erection of dwellings for the poor (and of the schemes being carried out by the latter I have the honour of being the architect), this matter is being dealt with. Then again there are Sir W. H. Lever, of Port Sunlight fame, Mr. Cadbury, of Bournville, and Mr. Rowntree, of York, who have launched out and shown what personal sacrifice and a desire to better the conditions of everyday life can accomplish during their lifetime.

Then there are Societies like the Letchworth Garden City, Harborne Tenants (Birmingham), Hampstead Garden Suburb, Ealing Tenants, and many others too numerous to mention, where people can go to purchase the houses which are put up on a well ordered co-operative principle and live together on co-operative lines.

Around all these munificent gifts and charities and Garden City schemes rage several points which I propose to go into a little more in detail and they are as follows:

Which is it advisable to build ? :—

1. Block Dwellings, or
2. Cottages.
3. The Block versus the Cottage.
4. If cottages, whether detached, semi-detached or in rows.
5. Number of houses to the acre.
6. The essentials of the best house built cheaply.

1. BLOCK DWELLINGS. These are divided into two kinds.

(*a*) *The Associated.*—A type however which is quite out-of-date and which nobody in his senses and thinking of hygiene or of the ordinary care of life would suggest ; very many of these however have been built and it is only more or less recently that they have been discarded. They comprise living room and one or two bedrooms only, and all scullery and sanitary arrangements are apart from the living rooms and used by the tenants of more than one, very often three or four other tenements, and mostly leading to gossiping and waste of time, general slackness and sometimes to more evil consequences.

(*b*) *The Self-Contained.*—This type is good. Each flat being what it says, self-contained, that is having everything which an ordinary cottage would have and combining all the comforts of a house without interference from anyone.

Cost of Block Dwellings.—The cost of block dwellings, according to Alderman Thompson, altogether apart from the cost of the land, averages about £100 per room, and the land cost about £75 per room, making the total about £175 per room. This is higher than the cost of the cottage per room, but it can be readily seen that where the site is in London, or other large cities, it is impossible or impracticable even from a philanthropic standpoint to build other than block dwellings. Block dwellings however should not be built higher than five storeys, and only four if the cost of the land is such as will allow this, owing to the vital question of adequately lighting all the rooms.

In the case of the Trustees of the Will of the late W. R. Sutton, whose name I have previously mentioned, the site at the corner of Old Street and City Road,* London, E.C., comprised only 1¾ acres, and cost about £95,000, and the buildings just over £70,000, a total of £165,000 for 284 tenements and 14 shops—885 rooms and sculleries and shops, etc., which works out about £80 per room for the buildings and about £107 per room for the land, and on another site where buildings are now being erected at Chelsea, the cost of the land was £76,000 for about 3½ acres, and the building contract is £176,000, a total of £252,000 for 675 tenements and 34 shops—2,175 rooms and sculleries and shops, etc., which works out about £80 per room for

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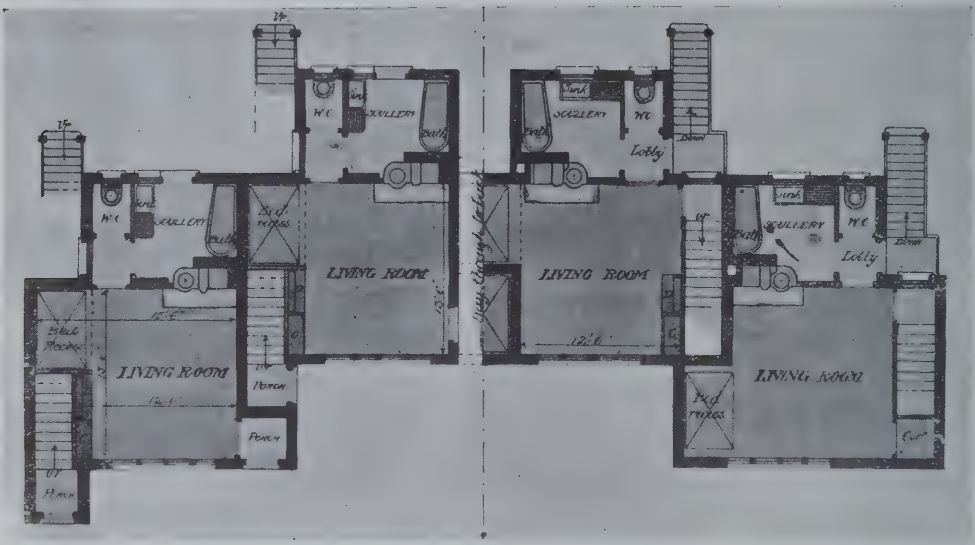
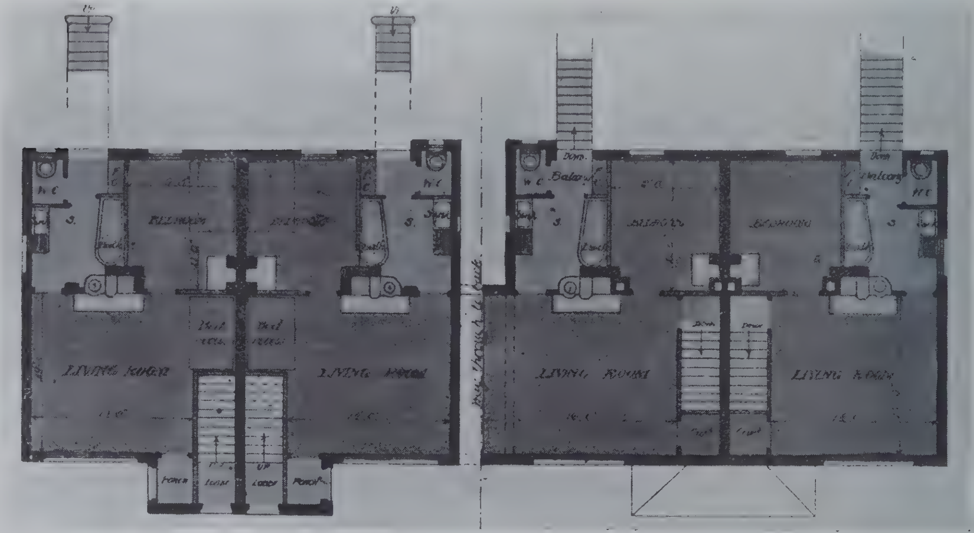
See "Journal" Vol. IV., No. **43**, *New Series, pages* 268-272.



Ground Floor. One-room Maisonettes, Two Floors high. First Floor

To cost £185 and let at 2/6 per week.

Sutton Trust. Typical Houses for Suggested Site at Birmingham.
Mr. E. C. P. Monson, F.R.I.B.A., F.S.I. (Member), Architect.



Ground Floor. Two-room Maisonettes, Two Floors high. First Floor.

To cost £235 and let at 3/3 per week.

Sutton Trust. Typical Houses for Suggested Site at Birmingham.
Mr. E. C. P. Monson, F.R.I.B.A., F.S.I. (Member), Architect.

the buildings and about £35 per room for the land, and in both these schemes after deducting 40% for repairs, rates and taxes and other outgoings, the rents are so arranged as to produce 2½% only on the total capital outlay.

The blocks here provide for one, two, three or four roomed tenements, and in all these tenements accommodation is made for a scullery bath room, separate w.c., larder, coal cellar, etc., which is not counted when speaking of the number of rooms. The entrances to the flats are all from staircases. Every floor is of fire-resisting materials as also are the staircases and roofs; the playgrounds and roadways are made with tar macadam; shrubberies are planted wherever possible, and care is taken to tend the trees and shrubs so that they shall have a fair chance of life. Staircase walls are in glazed bricks, and generally the whole of the work is carried out not so much with the idea of building cheaply as that of saving in the cost of upkeep and renewals.

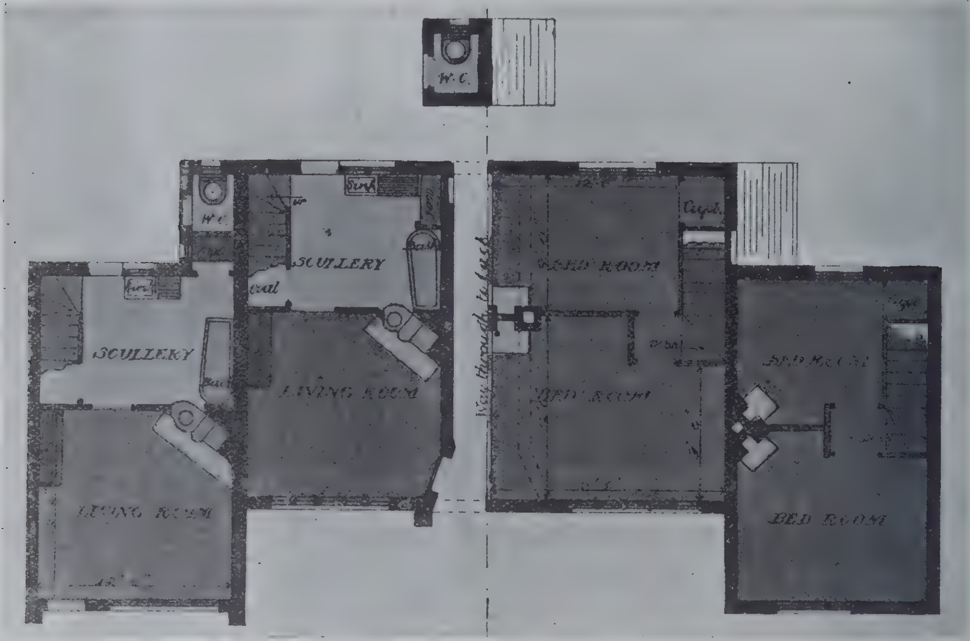
In London the L.C.C. have built many kinds of dwellings, some good and some bad, but doubtless these works are all so well known to you that I need not further dilate on them.

In Liverpool, where the Corporation have been doing a great and praiseworthy work on the Bevington Street area, and where they are proposing to spend a further considerable amount of money, the block dwellings are to comprise living room, one or two bedrooms, scullery, w.c., but no bath. The entrances to tenements are from balconies placed outside the buildings, but personally I am not greatly in favour with this particular method of entrance. It however has something to be said for it. It saves space, because one staircase can be made to serve a larger number of tenements than if the entrances were direct from the staircase.

In Manchester very many dwellings of this latter character have been put up by the Corporation, and it is becoming quite a usual thing for large Municipalities to go into the question of doing (as rightly they should do) something for the poor, but I am of opinion that in doing this, the buildings should be kept of such a character and at such rents as should make them self-supporting with no charge on the rates.

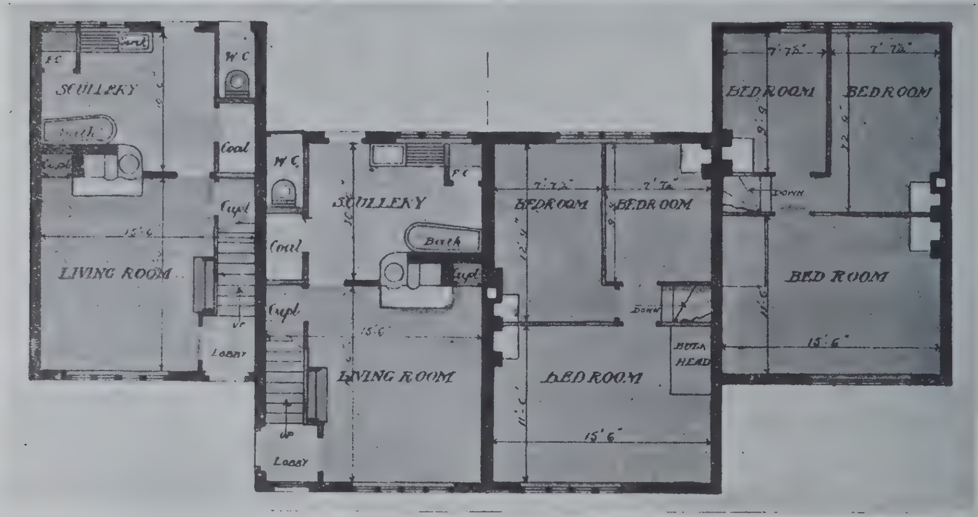
2. COTTAGES.—The Sutton Trustees are purchasing a site at Birmingham, about 21½ acres in extent, at a cost of about £18,500 including roads and sewers, and the proposition is to build 215 houses and cottages of varying sizes, from six rooms to one room two-storied maisonettes accommodating a total of 251 families in 1,050 rooms and sculleries, the whole scheme working out with roads and sewers at about £60,500, which gives an average cost per room of £40 for the buildings and £18 for the land and roads.

These figures from my own work prove conclusively that the cost per room in the cottage for buildings and site is less than the cost per room and site in the block. The cost of cottage building as given in *Housing Up-to-Date*, by Alderman Thompson, averages roughly from £50 to £70 per room, and the average site cost about £7 10s.



GROUND FLOOR. THREE-ROOM COTTAGE. FIRST FLOOR.

To cost £150 and let at 4/- per week.



GROUND FLOOR. FOUR-ROOM COTTAGE. FIRST FLOOR.

To cost £185 and let at 4/6 per week.

per room, but it is impossible to make any comparison because as I have said before, cottages can only be built to be productive where the cost of the ground is comparatively low.

3. The Block *versus* the Cottage.—The great question with regard to block dwellings is whether they are more or less healthy than the cottage, and it must be admitted that good health is dependent not on one condition but on many. Good physique, proper conditions of industrial life, adequate nutrition and proper clothing, all play their part in ministering to the good health of the workman.

Important as all these undoubtedly are the conditions of the home are of quite equal importance. In the home the children are born and grow year by year from youth to maturity. It is in the home that the wife fulfils her domestic duties and to which the breadwinner returns for food, recreation and rest. It is therefore a matter of fundamental importance that the dwellings should be so constructed as to directly minister to the good health alike of father, wife and children.

The primary command of creation was "Let there be light," and it is because the builders of block dwellings in some countries have neglected to obey this command that the block dwellings exercise such a mischievous influence in regard to the health of the people. In the New World as well as in the Old, this primary command had not been obeyed.

Another point against block dwellings is that they are liable to be overcrowded; this however ought never to happen where the Superintendent and his assistants keep a sharp look out.

Although I am designing many block dwellings I am not greatly in love with them, and if I were able I would build cottages of the type which I consider a workman's home should be, as described in the next paragraph, but with sites of the cost values of those just referred to, it is manifestly impossible to consider the question of cottages thereon even when the small return of 2½% is taken into account.

I agree with Mr. Henry Aldridge, the energetic Secretary of the National Housing Council, in his definition of what every workman's home should be. "To begin with, every normal, healthy dwelling for a family should possess at least three bedrooms—one bedroom for the parents and two bedrooms to enable the children to be separated in the years of youth and adolescence. The delicacy and privacy of individual life in the years of youth form one of the most important conditions for physical improvement.

In discussing this housing question with workmen I find that no point is more popular than that of the need for proper bedroom accommodation.

Each normal dwelling for a workman's family should also have a good living-room—spacious, well lighted, bright and clean. It should be the brightest and most cheerful room in the house. It has to serve as the workroom for the wife, the play-room for the children and the dining room for the whole family.

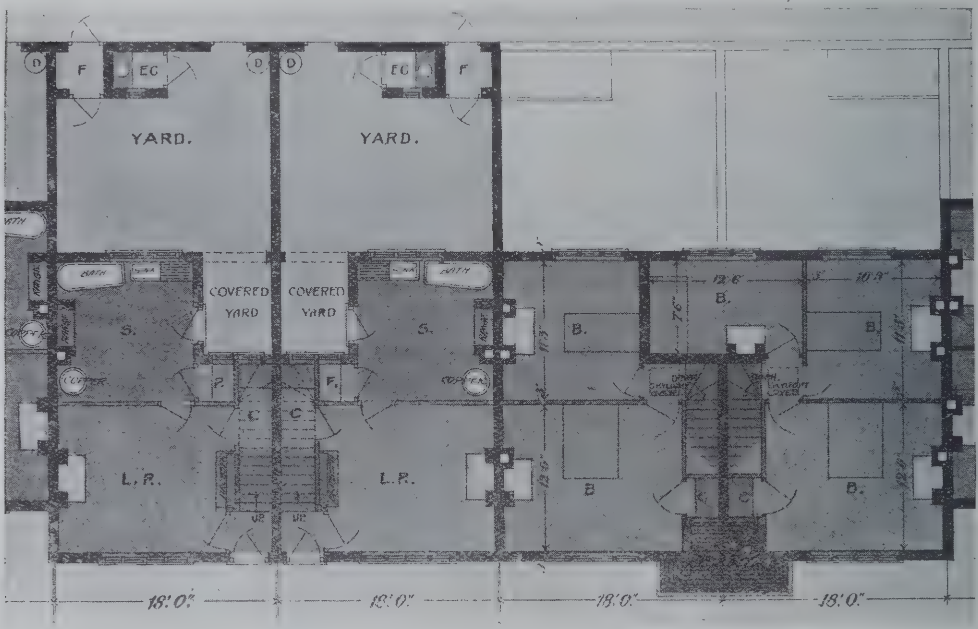
Connected with this room there should be a scullery in which the rougher domestic work of the household can be performed. Each dwelling should also be provided with a bath, and the practice of placing this real necessity of modern healthy life in the scullery may be recommended where the cost of a separate bathroom cannot be afforded.

With regard to the provision of a best room or parlour there is much difference of opinion amongst housing reformers in Great Britain. Personally, I am a strong advocate of the parlour or best room. I regard the quiet but strong desire of the workman's wife to have one good room for pleasure, as a healthy desire of great social value. The housewife realizes that directly she possesses a best room of this kind a definite advance in the standard of comfort has been secured. The room may be little else than a "cemetery of wax flowers," but it is a proof of the ability of the family to have a separate room for social life as distinct from work-a-day life.

This, then, is the standard of a normal, healthy home for a workman's family: three bedrooms, large living-room, scullery and bath—and wherever possible a parlour.

There is one external feature of the good home which should also be clearly stated, viz. :—the need for garden space. No workman's home can be regarded as properly equipped unless it has a garden, however small.

BACK STREET.



GARDEN. GARDEN.
GROUND FLOOR. FIRST FLOOR.

Valuable as public gardens are they do not serve the same purpose as the home garden. This garden may not be more than a few square yards, but it nevertheless gives the wife an opportunity of enjoying pure air and direct sunshine whilst still within the area of her home. In the days of maternity the block dwelling must often seem like a prison to many a workman's wife, and a quiet restful garden a perfect oasis of rest and cool quiet.

In the garden the husband can seek recreation in the best and most healthy of all forms—that of gardening. " In the Spring a young man's fancy lightly turns to thoughts of love." A prosaic paraphrase of this might be turned as follows :— " In the Spring a workman's fancy lightly turns to thoughts of growing geraniums and potatoes."

Of the garden, Francis Bacon says : " God Almighty first planted a garden, and indeed it is the purest of human pleasures. The block dwelling has banished this purest of human pleasures from the lives of working people. It is not enough that public gardens and parks have been provided. Valuable as these are, they are not proper substitutes for the home garden."

On the broad question, taking all things into consideration in connection with this Clause, I think, all will agree with me that the cottage comes out best and wins the case, and should be built wherever possible, of course every care being had and due account being taken of the situation of the building and the cost of the land.

4. THE COTTAGE : WHETHER DETACHED, SEMI-DETACHED OR IN ROWS.—Whether the cottage should be detached, semi-detached or in rows depends very largely upon the number it is desired to place upon any given plot of land, and makes a considerable difference in the number to be so placed because if they are in rows more land is available for building—and the overcrowding of houses is to be deprecated—but even if they are so placed it is far better in my opinion to provide a small yard, then the back way and beyond that the garden and, to say, every four or six houses, run a passage way from back to front, with rooms over, to connect up the back way as much and as often as possible, and prevent it becoming the nuisance it sometimes does, but if the number of houses to be erected to the acre is generally speaking, says Mr. Raymond Unwin, reduced to anything like 15, terrace houses with back passages will be found to be a more expensive method of development than with passages between the houses.

Is it better however to build houses semi-detached ? Here again the question of money comes in, for it is impossible to build in this manner as cheaply as terrace houses ; there are three main walls to be erected to start with, instead of two. The objectionable features however which may arise in connection with the back way in the terrace house are done away with, and every house has its garden directly attached thereto.

Detached houses are much better but again the cost is still more.

Looking at this matter dispassionately in all its lights I consider that the best way of arranging houses economically is semi-detached, but the passage between the houses should be not less than 4 ft. wide, and can be used jointly by the occupiers on either side; this method does away with the obnoxious back passage and is the easiest solution of that very irritating bye-law regarding back ways which at one time every local authority sought and fought for until they found out the cost of up-keep, lighting, etc., and which they would now be glad to be rid of.

5. NUMBER OF HOUSES TO BE BUILT TO THE ACRE.—This is a very vexed question and one which has already caused much heart burning—at present in certain districts as many as 30 to 35 and even more houses are built on an average upon every acre of ground, this of course means overcrowding and discomfort, terrace houses and practically no gardens, but 13 to the acre is a very usual number and is good. The Birmingham Corporation in their Town Planning Scheme for East Birmingham have fixed the limit at 10 per gross acre with a density rate of 20 per gross acre—this has however not caused satisfaction, and the builders and land owners are grumbling. Personally, I think, a good all-round average is 13 to 14 per gross acre, and with this number it is possible to give plenty of garden ground, as will be seen from my first scheme for the Birmingham site above spoken of, and the one now suggested to be carried out.

Referring again from a Report by Mr. Raymond Unwin of the effect of limiting the number of houses to the acre, he says, " For a moment let us confine our attention to land worth £300 per acre, which will be found to be a fair average for undeveloped land purchased in large quantities on the outskirts of existing towns. The two diagrams give in a graphic form the main fact that the advantage of increasing the number of houses to the acre is very much smaller than would at first be supposed even if measured solely by the money result per plot, while if anything is allowed for the size of the plot it becomes evident that the crowding of large numbers of houses upon the land is really a most uneconomical proceeding. The additional cost of road required to provide the extra frontage for the added number of houses, increases the total cost of development so rapidly that raising the number of houses from 9·6 per acre gross to 25 per acre only reduces the cost of land and roads per house from £68 to £40, while the size of the plot which each house enjoys is reduced from 423 yds. to 127 yds."

To put it in another way, with 25 houses to the acre, the tenant pays 7½*d.* per week for 127 yds. With 9·6 houses to the acre if the tenant paid 1*s.* 0½*d.* per week, he could have 423 yds. for his plot and the landlord would make the same profit upon his land, because while the effect of reducing the number of houses to the acre from 25 to 9·6 is to increase the cost per plot by 68 per cent, its effect also is to increase the area of the plot by 333 per cent.

To put it in still another way from the tenants' point of view, with 9·6 houses to the acre he pays at the rate of £778 per acre for the nett area of his plot, which is 3*s.* 2½*d.* per yd., while with 25 houses to the acre he pays £1,515 per acre for the nett area of his plot, or 6*s.* 3½*d.* per yd."

6. HOW TO BUILD HOUSES CHEAPLY.—Under the "Housing and Town Planning Act" and the various Small Holders and other Acts great incentive will be given to people to build houses for themselves, either through some of the approved societies or by borrowing the money in other ways with the aid of the Acts.

I do not propose to go into the many methods in which this can be done, but will only say that I consider the best way to build cheaply is for the client to employ a thoroughly practical and responsible architect, not a faddist or dreamer after the impossible, but one who understands his subject and can give the best results for the least money, due care being had to all the conditions obtainable.

Let me conclude by saying that the difficulties thus briefly stated are great ones beyond question, but there are not wanting signs of a great revival of interest in the housing conditions under which the working class families of every country live day by day, and year by year. These families build our houses, make our streets, weave our clothing, grow our food, and make life easy and pleasant in a hundred ways. In common fairness those whose conditions of life are less onerous and more pleasant should strive earnestly to improve the home conditions of even the poorest labourer. Certainly, no finer goal of effort can be sought than that of giving men not only "more room to live" but "more room to live happily, wisely and well."

MR. CHARLES ABURROW, of Johannesburg, is for the first time for many years spending a few weeks of the winter season in England. In Johannesburg he is widely known not only in professional but in masonic circles. Amongst the buildings recently erected from his designs are the Transvaal Miners' Phthisis Sanatorium which was formally declared open by the Administrator (Hon. Johann Rissik) on November 18th. A site of twenty-two acres was given by the Government, and the various mining houses came forward with a sum of money amounting to over £52,000. The hospital will accommodate seventy patients, and is equipped on the most modern lines. St. Augustine's Church, at the foot of Harrow Road, Doornfontein, of which only the chancel was completed, is now, after a lapse of nearly nine years, once more in the hands of the builders, and work is proceeding rapidly with the nave, which is being constructed in red brick with stone dressings to the window and door openings. The original design by Messrs. Aburrow & Treeby showed a handsome stone edifice with massive tower, and if carried out on these lines Doornfontein will possess the finest church in the district.

The Lay-out of Hospitals and Sanatoria.

Mr. A. Alban H. Scott, M.S.A., in a paper read before the Institute of Sanitary Engineers, says the general lay out of hospital buildings has during the last comparatively few years taken a great change. Originally it seemed to be the one desire to get the various sections of the buildings all grouped together as close as possible, partly brought about no doubt by such buildings being placed in towns where the land was very high in price, in the later buildings however the buildings are more separated. Generally speaking, the wards are allocated in blocks such as, Medical, Surgical, with Operating Theatres attached, Venereal, Maternity, Septic, Aseptic (Separate Buildings) with separate Operation Theatres attached, and isolation Ward, such blocks all being well separated and each having their own complement of necessary rooms.

The departments serving the whole establishments would be: Director's, Consultation (for out-patients), Electrical and Special Bath, Medical and Probationers' School, Nurses' Home, Kitchen, Laundry, General Stores, Mortuary, Central Heating, and all other necessary rooms for laboratories, etc.

*The Hospital la Pitie, recently completed in Paris for 1,000 beds, is one of the most perfect which the author knows. The departments have direct inter-communication by a well-lighted and ventilated subway which takes all pipes and wires, and is fitted with small tramway rails so that the whole traffic can be conducted underground, each building having a lift and staircase giving direct access to the block and to all floors. There is a very neat arrangement whereby each ward on each floor can send the whole of the dirty linen down a special chute to the subway, and at each chute a trolley is always standing waiting to be loaded, the laundry men periodically taking away the dirty linen and leaving another trolley. Thus there is the minimum amount of traffic through the hospital proper, and this applies generally in the whole arrangement. Everything is done to reduce hand labour and avoidable traffic through the wards, and further by this scheme everything can be centralized without the usual resulting disadvantages. In addition to this subway all the blocks *belong to their own class* and are connected with corridors on each floor, such corridors being well lighted and ventilated on each side.

SOME DETAILS OF CONSTRUCTION.

There are one or two details of general hospital construction the author would like to mention. Commencing with the floors, the following materials are in use:

WARDS AND CORRIDORS,—Hard wood battens, polished; Hard wood blocks, polished; Marble Terrazzo, semi-polished; Tiled; Jointless flooring; Linoleum, polished and unpolished, etc.

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* *See Vol. XXX., No.* 178, *Architectural Review.*

OPERATING ROOMS,—Marble Terrazzo; Tiles; Jointless flooring; Marble.

WALLS AND CEILINGS, WARDS, ETC., AND OPERATING ROOMS,—Tiles, various colours, shapes and patterns; Marble; Plaster, painted, distempered, enamelled, or a combination of any.

In considering these items there are several points to keep in mind, such as junction at floor and walls, and wall and ceilings, wear, cleaning, appearance, initial cost, cost of maintenance.

Junctions and arrisses must be rounded, and these should not be of a less radius than 3 in. The wear and tear is considerable, and the material should be suitable for this. The patients have long periods in which to study the walls and ceilings, therefore they should not be too monotonous. Nothing is more terrible than having to look for weeks at some fanciful design in tiles, and further, white or cream tiles are not over-pleasing in our climate. The first cost and maintenance are also both items which are of the utmost importance, and the fact that dry-cleaning should not under any circumstances be permitted.

For floors to wards, linoleum laid direct on asphalted concrete is best; for walls a fairly hard plaster, gloss-enamelled, and for ceilings the same but finished mat surface. Corridors as for wards, etc., except perhaps tiles might be substituted for lino. For operating rooms, floors of well-laid terrazzo; ceilings and walls as for wards. For lavatory floors, jointless pavings, and walls and ceilings as for wards. For kitchens and stores to same, grey tiled floor and white tiled walls, with ceilings of five-ply boards and enamelled. Laundry and such buildings, smoothed-faced brickwork for walls, well and constantly whitened; the floors tiled or granolithic paving and open roof boarded. Most of the special rooms should be plastered, and enamelled or tiled.

In regard to the width of a ward, 22 ft. should be the maximum, and 20 ft. the minimum; and a height of 11 ft. should be the maximum and minimum.

THE ARRANGEMENT OF SANATORIA.

The most usual arrangements are: (*a*) The room and corridor or separate system; (*b*) the pavilion, and (*c*) the Chalet, the one most commonly adopted being the room and corridor system.

The relative cost per bed, based on the author's calculations, is very greatly in favour of the pavilion system; for instance, assuming that for £10,300 a sanatoria for 100 beds could be provided on the room and corridor system, the same outlay would provide for 171 beds on the pavilion system.

In considering the size of a sanatoria it is a question as to the most convenient and also economical number of beds. No matter what the size, the actual cost per patient for maintenance is about the same, but the capital and maintenance cost on buildings, such as laundry, dining-rooms, kitchen, stores, operation room, dispensary, nurses' quarters, etc., is much less per bed for say 200 patients than for say 100 patients.

Sanatoria have been built from £100 to £1,000 per bed.

The author does not advocate blocks containing more than 100 beds; that would mean five blocks for 500 beds, and in view of the fact that the treatment in sanatoria is essentially an open-air method, he suggests that, to provide more cubic space per bed than about 810 cubic feet—that is, a floor space 9 ft. by 9 ft. and 10 ft. high—is unnecessary, as with the windows open, and only a moderate amount of artificial heat (if any), there is a constant and thorough change of air.

In the room system, however, the lower part of the room next the corridor, just where the patients are sleeping, is out of the direct line of ventilation. In the corridor system mechanical means of ventilation are desirable.

Projections such as balconies or cornices, if placed immediately above the window tops, obstruct the light, and the sun rays. It is a matter for careful thought whether a balcony of sufficient width to be of service does not do more harm than good.

In some buildings the ground floor is used for medical and other rooms, and the top floor only for patients. The balcony in this case does not affect the wards. It is a question, however, whether it is advisable to have any other accommodation than for the patients in the same block. The author strongly advocates separate blocks for beds and administration department, and common rooms in blocks to the north of the pavilion.

FIRE PRECAUTIONS.

Every ward should have at least two possible exits in case of fire, and the doors should be so arranged that (at least on the ground floor) a bed can be wheeled right into the open, and in the case of upper floors it should be carefully considered whether it is not advisable to have sloping ways as a second means of exit, in lieu of the usual staircase. Such a sloping way would allow of the beds being taken right down to the ground level, would cost no more for construction, and would not be more unsightly. Hydrants are seldom fixed into the actual wards, but should be so placed in corridors, or outside, or both, and the hose of sufficient length so that a fire at any point of the building can be reached, and all main rooms and wards should be fitted with automatic sprinklers. In all cases the whole of the buildings throughout should be of fire-resisting construction.

ARTIFICIAL LIGHTING.

Each ward, and all entrances, corridors, and the principal rooms, should be lighted on two separate circuits, so that if a fuse goes, only half the lights are affected. In addition to the double circuit, the operating room must have an emergency lamp independent of the main supply, and arranged either by accumulators on the roof of such rooms, or by a self-contained electric hand-lamp, always kept ready charged.

The illumination of these buildings requires to be more carefully thought out than has hitherto been the case. Indirect lighting is an essential preliminary requirement for all wards, corridors and rooms. Operating rooms are lighted in various ways, some having six lights flush with the ceiling with partly obscured glass, others having a central fitting with 100 candle-power lamp in the centre, and four bull's-eye lights in the form of branches with about 25 candle-power, and these are so adjusted that the light can be focussed on any part of the patient. Others again are fitted with stand lamps, and others with large swing arms, whilst some of the operating rooms have been fitted with arc-lamps, and the lights so reflected by mirrors that a concentrated light is obtained on the patient.

Arc lamps varying so much in the intensity of light given, seem to be the least desirable of any of the systems. Other operating rooms have powerful rays of light transmitted from the outside of the room, and so reflected by an elaborate system of mirrors, that many rays of light are focussed on the table. Such a system involves a large surface of dust-collecting mirrors and other fittings, and the benefits derived from external lighting are thus very considerably reduced.

The ceiling-light with flush, semi-opaque shades, supplemented by concentrated rays of direct light, is the best that can be obtained for the moment.

The ward should be lighted by reflected light from the ceiling and walls, placed in such position and of such power that an evenly distributed light is obtained throughout the ward, such light being sufficient for the purpose of patients reading and for the general conduct of the ward. For bedside examination the lighting should be obtained from plugs at the side of each bed with movable fittings.

Many of the lighting systems in our institutions were installed when electric lighting, fittings and lamps were somewhat in their infancy, but with the advent of the metal filament lamps, some re-adjustment is necessary in the old buildings, and entirely revised systems in the new buildings.

Ventilation and Heating.

The ventilation of sanatoria is provided by nature if the pavilion system is adopted, provided the structure is not designed to contain a large number of impossible corners and dark unlighted recesses, the windows being constantly open and carried right up to the ceiling line.

If any heating is adopted, the author favours open fires, supplemented by steam. The reason steam is favoured here is that the pipes can be of a much smaller diameter than even on the accelerated system of low pressure hot water; and further, the radiators can be of much less size. The radiators too, should be made of the swing pattern, so that every particle of the wall and floor surface can be thoroughly cleaned. If however steam is adopted, the humidity of the air must be carefully considered, and it must be helped by a permanent method of introducing fresh air into the wards. If this is done, no discomfort is felt from the steam heating.

GENERAL CONCLUSIONS.

The author thinks that, owing to the great difference in cost, the pavilion system would be the most suitable for national sanatoria ; that to reduce disturbance from coughing the pavilion might be divided with light double-glazed partitions, so that about six patients only were in each division ; that districts should combine, and buildings to accommodate not less than 150 and not more than 500 patients be erected, and thus avoid such a large capital outlay for fitting up so many independent sets of apparatus, and afford a larger number of patients the benefits accruing from a thoroughly-equipped establishment, the cost of which would be prohibitive in each small unit ; that such larger unit would allow of more favourable and suitable sites being purchased, and would avoid so much duplication of lighting, water, sewage, disinfecting and heating plant ; that such works managed on a larger scheme would cost much less per bed for staff, upkeep and maintenance than many small units ; that the domestic-supply contracts could be obtained on better terms ; the medical, nursing and domestic staff be more economical, and the research work and statistics more reliable and could be put to better use, as they would be more comprehensive, and more reliable deductions could be made from them, and still further the sterilizing and pasteurizing plant and apparatus can be made more complete and more freely used than it is at present.

The whole of the fittings should be of the strongest and most simple design possible. The wear and tear is very great and the cost of maintenance is considerably decreased by purchasing first-class fittings and apparatus in the first instance. The fittings for the sanitary arrangements should be of the very best class, and so arranged that every part can be thoroughly cleaned ; further, that all pipes, no matter of what description, should have ready access ; and no wires or pipes in any part of the building or grounds should be buried, so that immediate attention can be paid to any part without cutting up or interfering with any other section of the work. All doors should be absolutely flush on both sides, and no mouldings in any part of the buildings allowed under any circumstances.

In regard to temporary methods of construction for sanatoria and similar buildings, in the author's opinion, the only materials fit for the construction of such class of work are brickwork, stone and reinforced concrete. All other materials he would eliminate, including concrete blocks, which he does not consider suitable for building work, and a building properly and economically designed can, in his opinion, be constructed as cheaply in a permanent form as in any temporary form of construction which is at all feasible or possible for these buildings.

Alexandria's Place in Architecture.

The Egyptian Gazette of January 13th prints a summary of the paper read before The Society of Architects, by Mr. G. A. T. Middleton, and in a leading article says it is difficult to avoid the impression that if Mr. Middleton had been able to make a longer stay here, he might have modified somewhat his comments on the scantiness of the architectural remains and the irreverence or indifference of those who now live and move above these interesting ruins. But there would still have been ample room for astonishment in both cases. Extraordinarily little remains, and extraordinarily little effort is made to preserve it. Of the first of these two facts there seems to be no really adequate explanation. Mr. Middleton rightly says that very little is known of ancient Alexandria; even the site of the wonderful suburb of Canopus can be but vaguely guessed at from the position of a few scattered fragments lying neglected in the sand. The long period of the Arab and Turkish domination has a great deal to answer for. The neglect of Alexandria by modern archæologists is probably largely due to the difficulty of persuading householders to allow their cellars to be dug into.

There remain the catacombs and the museum, and of these Mr. Middleton has made excellent use, producing an article of unusual interest both from the architectural and archæological points of view. There is much that might be said about an art extending over a long period and producing work of a very high order as late as the Fourth Century after Christ. But what Alexandria really stands for, and stands alone, is something of an earlier date and character, late Greek or early Roman as some might call it, but in greater truth Alexandrian, typefied by a form of Corinthian capital practically unknown elsewhere, but common in the Egyptian port, as the numerous examples in the museum indicate without doubt. The Romans, of course, used the Corinthian Order everywhere, but that was at a date subsequent to the Alexandrian work; of the true Greek Corinthian singularly few examples exist. It is therefore possible, as Mr. Middleton shows, to make out an excellent case in support of the contention that Alexandria is the real home of the Corinthian Order. If so, the name of Alexandrian should be given to it in place of Corinthian, and the Alexandrian form should be accepted as the general type. At least its recognition, and its use with such modifications as might be called for under individual circumstances, is fully justified in modern work which apes the classic.

Our position in architecture, if this theory be correct, is one of considerable eminence, and it is the more to be regretted that the evidence, in the form of ruins or written records, is so meagre. Even what we have got is comparatively little known. Few tourists visit the catacombs, fewer still go to Aboukir. If tourists could be induced to stop here, the commercial value of our "sights" would become apparent and facilities for further excavations might improve accordingly. The tomb of Alexander the Great is surely something worth searching for!

Architecture as a Profession for Women.

The question of sex in architecture which formed the basis of a recent discussion at the A.A., comes under consideration again in an article in *The Queen*, contributed by a woman architect.

The profession of architecture is, in her opinion, most suitable for those who combine artistic ability with practical common sense, qualities which she deems necessary to make a successful architect, even if she is a woman. She shares with Mr. Gunn the opinion that sex need offer no difficulties in regard to superintendence of works, and there appears to her to be no reason why an ordinarily level-headed young woman should not mount a ladder ; and if men insist on jumping from one joist to another on a building in course of erection, there is no reason why women should do the same. There is always a foreman or clerk of works who will see that a plank is laid (or, perhaps, lend his hand if necessary), so let not the fear of superintendence deter the would-be architect.

It has been urged as a reason against women entering the profession that they would find it difficult to get builders to carry out their orders, but a woman usually knows what she wants, and mostly gets it without much beating about the bush either. Architects, she says, have certain professional powers which they may use to make the builder carry out their wishes, so that men do not have to rely solely on their force of character in seeing that their orders take effect.

Having got rid of any fears that may have existed, and being prepared for some years of hard work, the next thing for the intending woman architect to do, is to find someone willing to take her for a pupil. Some architects who would gladly have a young man in this capacity may hesitate where a lady is concerned. Architecture being an art, most principals do a great deal of the actual drawing themselves, keeping the office staff as small as possible in order to prevent their practices becoming at all "commercial." As a rule, they keep in close contact with their pupils and assistants, who carry out their artistic ideas. The result is, that in such offices typists and therefore women are a more or less unknown quantity, which many architects seem somewhat afraid of introducing.

They fear that it might be "rather disturbing" to have a lady in the office, and there are those who imagine that the young men might become distraught, and that from the hour of her entrance concentrated work would cease.

Others may say that their offices are small and that there would not be room for a lady, and these must be assured that she will take up no more than the normal amount, especially just at present, when neither wide sleeves nor trains are in vogue !

Again, there are some who have such a refinement of feeling and good manners that they would hesitate to ask a lady to do this or that, and while respecting and sympathizing with the spirit that prompts such feelings, yet the writer thinks their diffidence is unnecessary, as a gentleman (which an architect usually is) is always polite to everyone in his office. We might here remark that while every gentleman is not an architect, we should hesitate to accept the inference that every architect is not a gentleman.

Having found the polite and unprejudiced architect, whom we are assured does exist, the next step is to arrange the details of pupilage.

In the case of a woman, the writer thinks, it would be better to adopt the system of three or four years' pupilage in an office in preference to two years in the schools and two years in the office, lest, when she had finished the first part, she found herself blocked through being unable to find an architect willing to take her for the completion of her course.

It would, however, be well to adopt the recommendation of the Board of Architectural Education, if the student had an undertaking from an architect beforehand, to take her into his office afterwards.

One word of advice to the architectural aspirant, and that is, not to undertake this as a profession unless she feels strongly drawn towards it.

Only those should adopt architecture as a profession who feel that through this medium they can express their artistic ideas ; and to the true artist it thus becomes a method of self-realization.

The article is, we believe, from the pen of the only woman Licentiate of the R.I.B.A., and it would be interesting to know whether her sister architects, one of whom is the only woman Member of the Society, shares her views as to the qualifications necessary for the practice of architecture by women and the particular sphere in which they can be best exercised.

National Town Planning Conference.

Appointment of Official Delegates.

The following Members have been officially appointed by the Council to represent the Society at the Town Planning Conferences in March and April, 1912.

MANCHESTER, March 27th and 28th.

MR. A. J. MURGATROYD, Past Vice-President.
MR. WALTER W. THOMAS, J.P., Past President.

LONDON, April 24th and 25th.

MR. G. A. T. MIDDLETON, A.R.I.B.A., Past Vice-President.
MR. EDWIN J. SADGROVE, F.R.I.B.A., Member of Council.

Architecture and Painting.

THE PREDOMINANCE OF THE PAINTER.

The *Times* in a leading article on Sir Alfred East's paper read before the Royal Institute of British Architects, on the application of colour to architecture, says the problem has never, perhaps, been completely solved since architecture ceased to be the dominant art having a complete control of other arts, because the building only exists to provide a surface for pictures. Even in the case of the greatest examples of Italian mural painting we are apt to forget the architecture in looking at the pictures. Further, these triumphs of painting have misled the art of pictorial decoration ever since. Wherever it has been practised, the architect and the painter have usually worked as independent artists, each with a different aim. After the architect has finished with a building the painter has entered it and done what he could to turn it into a picture gallery ; and often a number of different painters have been employed, as in the Pantheon in Paris, or in our own Houses of Parliament, each of whom has painted his own picture, with as little regard for the rest or for the building itself as if he were painting an easel picture for an exhibition.

Where colour is used at all to decorate a building, it should be used systematically throughout. The effect of a series of mural paintings in a large interior otherwise uncoloured is merely to distract the eye from the whole interior to the patches of painting. Considered in their relation to that interior they are, however excellent as pictures, mere irrelevant masses of colour, which, as Sir Alfred East remarked, usually conflict with the architectural effect of the whole. There is a discord of two arts where there should be a harmony, or where one should reign alone. And yet whenever architecture has been the predominant art it has nearly always used colour as an instrument of its own, whether in the form of paint or mosaic or stained glass. But in such cases the decorator has been either the servant of the architect or subject to an architectural tradition which entirely controlled the practice of his own art ; and this tradition has always been of the greatest possible benefit to the decorator, preserving him both from mere virtuosity and from prosaic imitation.

The moral, then, is that the architect should always be the master of his own house ; but unfortunately architects have so long ceased to think of colour decoration as their business that it is not natural to them to design in colour ; and a building which is not made to be coloured cannot be coloured satisfactorily. Sir Alfred East remarked that in many decorated public buildings the areas of the different colours employed were not in keeping with the scale of the building. In such cases the decorator often has an impossible problem because the architect, in designing his building, has not seen it coloured. We may doubt, for instance, whether Wren ever in his mind's eye saw St. Paul's coloured. He probably, like so many great

Renaissance architects, designed entirely in spaces. In fact, our specialization of the arts makes their complete harmony at present impossible, because the architect is not a colourist and cannot exercise the necessary control over colour, at any rate in ambitious buildings. Therefore, if we are to learn how to apply colour rightly to buildings, we had best begin as unambitiously as possible upon interiors with little architectural pretension. But the painting in such a case must be as unambitious as the architecture. We do not want pictures painted upon the walls at all. Rather we want the walls decorated as the old illuminators decorated books, without pictorial illusion, but with a happy mixture of things both interesting to the artist and appropriate to the place. Modern decorative painting is apt to be too solemn and abstract. There is no reason why a figure painted on a wall without background should always look tired of life or shocked by the vulgarity of reality. The artist freed from pictorial trammels ought to exult in his freedom and paint everything as if he loved it, not as if it were merely a factor in some pictorial problem. If he does this he will probably be accused of vulgarity or incompetence ; but at the same time he will interest the public even if they laugh at his work, and he will also be laying the foundation, however humbly and crudely, of a sound tradition of mural painting, which may in time be put to loftier uses.

An Opening for Architects.

"Unlike the majority of Town Councils in the smaller towns of the southern provinces, the members of the Municipalities of both Salisbury and Bulawayo are imbued with remarkable energy, and many of the schemes they initiate would do credit to far larger communities, and their water and electric light installations are on a most ambitious scale and far in advance of the needs of the present population. With the continued growth of the agricultural industry, both towns are bound to prosper, and they should offer an excellent opening both for the architect and contractor."—*African Architect.*

The Royal Sanitary Institute.

Henry Saxon Snell Prize.

A Prize of Fifty Guineas and the Silver Medal of the Institute is offered in the year 1912, for an Essay of not more than 5,000 words, on "Suggestions for Improvements in the Ventilating, Lighting, Heating, and Water Supply Appliances and Fittings for an Operating Room and its accessory rooms for a General Hospital of 400 Beds (no Students)."

Essays must be delivered before 4 p.m., on or before August 30th, 1912, addressed to the Secretary of The Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.

Correspondence.

To the Editor of "The Journal."

The Students' Section.

Sir,—You will see by the enclosed report* of a Students' Meeting, on February 16th, that it has been decided, if possible, to arrange for debates during the winter session on subjects of general interest, but my Committee feel that they cannot make any definite arrangements unless they have at least an approximate idea of the amount of support which is likely to be given, by way of attendance at the meetings, from Students in or near London.

If those who are prepared to take an active interest in the proposal will communicate with me, it will greatly facilitate matters, and my Committee would also be glad to have the views of Country Students as to any methods which might be adopted for keeping them in closer touch with their colleagues in London.

It may be pointed out that these Students' Meetings are of an informal and social character, and are found extremely useful in giving Students an opportunity of making friends and renewing acquaintances and of enlarging their views by an interchange of ideas.

28, Bedford Square, W.C.
February 20th, 1912.

Yours faithfully,
C. H. Hudson,
Hon. Secretary to the Students' Section.

*[The report referred to is printed below, and we hope the Students will take full advantage of the many facilities which are offered to them, and also that they will heartily support the Committee in extending the scope and utility of the Students' Section.—Ed.]

Students' Section.

The success of the Students' "Smoker," held on January 18th, decided the Committee to give further opportunities for the Students and their friends to meet together, and it is proposed to initiate a series of discussions during the Winter Session.

The first of these meetings was held in the Society's Library on February 16th, at 7 p.m., when Mr. H. V. Milnes-Emerson, A.R.I.B.A., was in the chair, and a discussion was opened on "Essentials in Architecture," based on extracts from Mr. Belcher's book. The subject was introduced by the Hon. Secretary, Mr. C. H. Hudson, who was followed by Messrs. N. G. Harland, R. Hardy Syms and H. A. Wilkinson.

Before the meeting dispersed it was decided that, if possible, short papers on subjects which would lend themselves to debate, should be prepared and read at future meetings.

The Hon. Secretary will be glad if Students who have any suggestions to make, will communicate their views to him for the consideration of the Committee.

Reviews.

Architecture: an Introduction to the History and Theory of the Art of Building. By W. R. Lethaby. (London: Williams & Norgate. 1s.)

The title of this book is grandiose, and its author well known; but it is not worthy of either. There is good writing in it, of a compressed and jerky description, and many important points are emphasised by the expedient of commencing the paragraphs with definite statements, suggesting the enunciations with which students of "Euclid" are familiar, such as "No recipes can be given for producing fine architecture," and "Mature Greek architecture had two modes"; but these are quite insufficiently elaborated and proved, and so remain as didactic utterances and nothing more, while the whole book is ill balanced and the illustrations too bad for serious notice.

Academy Architecture and Architectural Review, 1911. Founded by Alex. Koch, Architect, Membre Honoraire de la Société des Peintres et Sculptures Suisse, etc.

This annual publication is always looked forward to with pleasure, alike by those who have visited the Royal Academy and those who have not, for it contains excellent reproductions of some of the best architectural drawings exhibited there, as well as of others which have been hung in the Paris Salon and the Berlin Kunstausstellung. Thus an opportunity is afforded of comparing the contemporary architectural developments and styles of draughtsmanship of England, France and Germany, at their best.

The Institute and The Society of Architects.

The negotiations which have been long going on between the Institute and The Society of Architects, with the object of the union of the two bodies to promote the passing of a Registration Bill, have, of course, been in the nature of private documents. The result of the meeting called to endorse them, however, has been printed in the Institute *Journal,* and is practically therefore public property, and the refusal to endorse the proposals, by a large majority, shows, at all events, that there are a good many members of the Institute who are hostile to the scheme, at all events, in its present form. It is perhaps no serious violation of the privacy of the meeting to say that the proposal lost nothing by the way in which it was brought forward, for a more able and masterly speech than that of Mr. Gibson, in moving the resolution, has seldom been heard at an Institute meeting. We should take it that the outline of the proposed Bill which the Institute were to undertake to promote, if The Society of Architects would amalgamate with them, had something to do with the general opposition; we cannot cite from a private document, but we may say that it embodied some proposals which Parliament would certainly never accept. What is to be the next step in the matter is not apparent; but our impression is that the amalgamation of the Society with the Institute is not very likely to take place now.—*The Architects' and Builders' Journal.*

Registration in South Africa.

"It has been deemed advisable by the Council of the Association of Transvaal Architects to recommend that the new Union Bill be not presented to Parliament till next session. The draft is practically completed, but the members of the Association have not yet had an opportunity of discussing same, and considering the number of apparently contentious clauses in the draft and also the extreme advisability of obtaining the best legal advice on the matter, it is considered very inadvisable to rush the matter through, which would mean doing so if it were presented to Parliament this session. One of the most important features of the Bill to be discussed is that of finances. It is anticipated that the Union Bill will not cost less than £500. Now the only body with any capital is the Association of Transvaal Architects, and the members must face the question as to how to assist in furthering the Bill with their money."—*African Architect.*

Architectural Education.

Mr. H. G. P. Maule, F.R.I.B.A., in a paper on the above subject read before the Manchester Society of Architects, lays down the following as the main principles to be recognized:—

(1) The compulsory insistence on a general training of not less than four years, two of which should be passed in an architectural school. The standard might rank with the present intermediate papers.

(2) The formation of machinery for more advanced and specialized study, the first grade of which should rank with the present final papers. The remaining advanced courses would be of the nature of specialization.

(3) Greater time for study by all who wish to do more than acquire a minimum standard.

The whole question hinges upon the interpretation of the functions of the architect, and the recognition of the fact that architecture is structural and decorated, and not a decorated art constructed, a living, pulsating structure; not scene-painting in stone, with the engineer as stage carpenter. The essential qualities of the general education should be: (1) Scientific study of materials and construction in their elementary form. (2) Analytical study of past building methods and architectural expression, and the deduction from this of the broad principles of design. (3) The application of the above—the production of design from knowledge and study of principles. The study of the humanities of art should form part of the training from the very first.

This general training, he was sure, from a varied experience, could not be mastered by the average student in less than four years.

An Indian Chair of Architecture.

In a communication to *Indian Engineering*, a correspondent noticing in the columns of that paper from time to time references deprecating the absence of anything that may fairly be called architectural training in this country, states that the present time, when there is a combined movement at Home to give this profession a scientific standardized basis, and to amalgamate the two leading bodies, viz., the Royal Institute of British Architects and The Society of Architects, suggests the idea of pressing this point home to Government. There is the further fact that with the rise of a new capital in India there will be a considerable development of architectural work which will spread over very many years as the city grows. All this work will, of course, as things now stand, fall into the hands of the official architects so far as official buildings are concerned; and the very few unofficial architects will share between them the rest of the planning. This is a ludicrous state of things for a country of the importance of India—an importance which he fears is not realized and will not be realized through official glasses. He thinks what has gone on in that country during the last fortnight must have opened the eyes of some as to the true position of India in the world; and that those eyes would open somewhat wider if their possessors were told that the country refuses to train architects, and that all they beheld had to be provided by the few men Government chooses to import into India and just a few others. It is a time therefore to take this matter up seriously and to request through our Legislatures that no further time be lost in providing a first-class architectural course in one or more of our technical colleges.

The cause of the statutory registration of architects gained a step forward by the promotion by the Royal Institute of British Architects of a Bill for that purpose, this time with the support of the vast majority of the profession in Great Britain and in Ireland, and by proposals for the amalgamation of the Royal Institute of British Architects and The Society of Architects. The passing of a Registration Act will then, says the *Irish Builder*, become an affair of practical politics with every prospect of successful issue. The existence of such a statute, whatever its merits or demerits in the eyes of different schools, would unquestionably improve the status of the ordinary qualified general practitioner who constitutes the immense bulk of the profession, and afford him some protection from the competition of unqualified persons, who now deprive the qualified men of so large a share of both town and country work in Ireland. Without, however, a general improvement in the educational rank of the profession as a whole, it can scarcely give very complete results.

Illumination as a Study for Architects.

"Last week the Autocrat of the Board Table referred to an architect who thought that 'there was nothing in the problem' of lighting a Public Library. That this example is not exceptional may be gathered from Mr. Darch's remarks in the course of the paper which he read before The Society of Architects.* His subject was 'Illumination as a Study for Architects,' and he admitted at the outset that the average architect was not greatly impressed with the importance of good illumination, 'which was seldom preconceived, and was largely left to the empirical methods of the electrical engineer or the gasfitter, who had shown a complete disregard of commonsense principles.' He defined the conditions of good illumination as follows: 'that it should be sufficient, perfectly steady, effectively diffused, free from violent contracts, directed downwards, and as white as possible.' Dealing with light diffusion, Mr. Darch remarked that the word 'shade' implied some protection, but 'it must be obvious that a screen of glass which was transparent or lightly figured could afford no protection to the eyes.' From this we gather that Mr. Darch has not yet made the acquaintance of scientifically designed prismatic reflectors. The *Evening Standard,* for instance, has got the impression from this paper that there is no alternative, except bare or wastefully shaded lamps, to the extravagant system of 'concealed lighting.' This is unfortunate, and it suggests that Mr. Darch has not carried his study so far as he might have done."—*Electrical Industries.*

"In a paper on 'Illumination as a Study for Architects,' which was read at the last meeting of The Society of Architects by Mr. John Darch, F.S.I., there occurs one sentence which forms at once a trenchant criticism on the prevalent neglect of this important subject and a powerful plea for the necessity of devoting more attention to it in the future. The author of the paper observed in conclusion that 'As no one can better know how to light his picture than the artist who painted it, so no one can better appreciate good lighting of an interior than the architect who designed it.' Once it is fully realised what an important effect for either good or ill a scheme of lighting has upon any scheme of decoration, it is manifest that the study of illumination is one which ought to be undertaken by every architect. In his exceedingly able and exhaustive paper Mr. Darch dealt with every aspect of the subject, including questions of physics, physiology, æsthetics, and economics. A good scheme of artificial lighting must possess certain characteristics which to the ordinary individual are not easily definable. Probably they are summed up when we say that an illuminant must be sufficient, steady, diffused, and white in colour. In addition there should be no violent contrasts, and the direction should be oblique downwards. These and many other matters were considered in detail in the paper, which, apart from its intrinsic merits, is worthy of notice as drawing attention to a subject of vital importance which is all too frequently neglected."—*The Surveyor.*

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* *See Vol. V., New Series, No.* 52.

Meetings and other Fixtures, 1912.

Mar. 7th. Committees, Council and Ordinary Meetings. Paper by A. Alban H. Scott (Member of Council), on "The Testing of Materials." 8 p.m.

,, 11th. Examination Entries close.

,, 13th. The Society of Architects Masonic Lodge 3244. Liverpool Street Hotel. 5 p.m.

,, 21st. Interim Committees.

,, 25th. Last day for submitting Students' Quarterly Competition drawings.

April 2nd, 3rd, 4th. Examinations for Membership.

,, 5th to 8th. Easter Vacation.

,, 11th. Committees, Council and Ordinary Meetings. Discussion on "The Ethics of Architectural Practice," to be opened by the Secretary. 8 p.m.

,, 25th. Interim Committees.

,, 26th. Twenty-eighth Annual Dinner, Holborn Restaurant. 7 p.m.

May 1st. Last day for submitting Travelling Studentship Competition Drawings.

,, 8th. The Society of Architects Masonic Lodge 3244. Holborn Restaurant. 5 p.m.

,, 9th. Committees, Council and Ordinary Meetings. Subject of paper to be announced.

,, 25th to 27th. Whitsuntide Vacation.

June 24th. Last day for submitting Students' Quarterly Competition Work.

Sept. 5th. Council Meeting. House List, etc.

,, 9th. Examination Entries Close.

,, 29th. Last day for submitting Students' Quarterly Competition Work.

,, 30th. Last day for submitting Scholarship Measured Drawings.

Oct. 1st, 2nd, 3rd. Examinations for Membership.

,, 3rd. Council Meeting.

,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

Mainly about Members.

We regret to announce the death of Mr. George C. Strawbridge, architect and surveyor, of Taunton, who was 65 years of age, was one of the original members of The Society of Architects which he joined in 1884. He was well known in local masonic circles and was a P.M. of the Taunton Lodge, "Unanimity and Sincerity," and was also a member of the "Mar Lodge of Somerset," in which he had held various offices.

Mr. D. Ivor Lewis, Hon. Secretary of the Society's Branch at Johannesburg, has been elected a member of the Transvaal Institute of Architects.

The Higher Education Committee of Portsmouth are about to erect a girls' hostel at Milton, at a cost of about £20,000. Mr. A. E. Cogswell, of Prudential Buildings, Portsmouth, has been appointed Quantity Surveyor.

Mr. J. R. Leathart, a prize winner in several of the Society's Students' Competitions, has been awarded a certificate for his drawings submitted for the Pugin Studentship of the R.I.B.A.

Mr. J. A. Cope Christie, at one time a well-known architect on the Rand, has, says *The African Architect*, made Bulawayo his headquarters, and has a number of handsome premises to his credit in that progressive municipality.

An excellent portrait of Miss Annie Hall, the first woman member of the Society, recently appeared in *The Queen.* Miss Hall, who qualified at the recent examination, was trained in the office of Mr. T. Overbury, of Cheltenham, and is now in practice in London.

Mr. Raymond Unwin and Mr. A. Ainsworth Hunt are the two representatives of the architectural profession on the Departmental Committee appointed by the President of the Board of Agriculture to enquire and report as to the nature and character of the buildings which should be provided for use in connexion with small agricultural holdings in England and Wales.

The Cosford Rural District Council have decided to proceed with the erection of cottages under the Housing and Town Planning Act. Plans have been invited, and those of Mr. A. Ainsworth Hunt, of Bury St. Edmunds and Sudbury, accepted. In pointing out the advantages of Mr. Hunt's plans as compared with the others, it is stated that they provide a bigger living room, and that the price of Mr. Hunt's cottages, too, is slightly less than the others.

A new hall for the Order of Foresters is being added to their house on Rutland Square, from the plans and specification of Mr. W. A. Scott, A.R.I.B.A., 45, Mountjoy Square. It is built with Dolphin's Barn and Mount Argus stock bricks, and faced with red Courtown bricks. The size of the large hall is 97 feet by 30 feet, and it has stage accommodation 20 feet wide and 24 feet deep. It also contains store rooms, lavatories, and a small assembly room. The cost is about £1,500.

Messrs. Packer & Co., of Bristol, recently introduced a competition for a pavilion on their Recreation Grounds. The cost of the building was not to exceed £3,000. The successful designs are by Messrs. Paul & James, of Bristol. In consideration of the amount of work involved, Messrs. Packer & Co. have decided to give the sum of £5 5*s*. to each of the next six competitors, one of whom was Mr. G. Walesby Davis, of Darlington.

Architectural Sketching Tours.

We have received particulars of two interesting sketching tours, arranged by Mr. G. A. T. Middleton, A.R.I.B.A., of 19, Craven Street, Strand, W.C. The first is at Easter to Normandy, and the second in June to Greece and Turkey.

In the former case the party will leave London on April 4th for Rouen and Caudebec, the cost for four days being four-and-a-half guineas, and for the whole tour of eight days, seven guineas. March 18th is the latest date for joining the party.

For the summer tour the party will leave London on June 27th, and travel *via* Havre and Paris to Marseilles, and on by boat to Patras, arriving there on July 3rd. A tour of Greece will be made during the following fortnight, the places to be visited including Corinth, Mycenae, Epidaurus, Athens and Eleusis. The boat will be rejoined on July 17th, and Constantinople reached on July 22nd. Five days will be spent there, and an excursion of five days' duration will be made to Broussa, in Asia Minor (the ancient capital of the Ottoman Empire), and to Nicæa. The return journey will be by boat, leaving Constantinople on August 3rd, and reaching Marseilles on August 12th, which would enable London to be reached early on Wednesday, August 14th. The total cost, first class throughout, will be sixty guineas (£63).

Those who desire to do so may remain at Athens till July 20th, joining the boat at the Piræus on that day and returning direct home *via* Marseilles. The cost of this restricted tour will be forty-two guineas (£44 2*s*.)

Those who intend to participate must apply by Saturday, May 25th, at latest.

The April Examination.

Centres are in course of formation in London, Manchester, Leeds, Cardiff, Birmingham and Oxford, and it is hoped to afford similar facilities in Dublin, Cork and Belfast should there be sufficient demand. Entries should be made as early as possible, and in any case not later than March 12th.

Register of Employment.

There have recently been several vacancies which it has been impossible to fill owing to the lack of candidates for such appointments. It is difficult to ascertain whether the position arises from a flourishing condition of affairs in the profession or a lack of appreciation of the advantages of the Register. If the latter, the remedy is obvious.

Papers for Session, 1911-12.

The following arrangements have been made for the Session :—

1912.

Mar.	7th.	"The Testing of Materials." By A. Alban H. Scott (Member of Council).
April	11th.	Discussion on "The Ethics of Architectural Practice." To be opened by the Secretary.
May	9th.	Subject to be announced.

Ordinary Meeting.

The Fifth Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, March 7th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Paper on "The Testing of Materials." By Mr. A. ALBAN H. SCOTT, M.R.SAN.INST., Member of Council. To be illustrated by diagrams.

Light refreshments will be served after the meeting.
Smoking permitted.

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Housing and Industrial Unrest.

Mr. E. G. Culpin, the Secretary of the Garden Cities Association, speaking on Mr. Monson's paper on " the Housing of the Working Classes," read before the Society last month, gave it as his opinion that a good deal of the industrial unrest in South Wales was due to the state of housing which prevailed there. In this connection it is interesting to note that a miner writing " on the responsibility of owners," in *The Times* of February 29th, says : " that they (the miners) have to pay 6*s*. to 10*s*. and even more per week for jerry built houses, and that the jerry builders are all over the colliery districts in Wales. They build in one place, get the houses off their hands, go to a new place, and build more."

Sir A. Griffith Boscawen, M.P., in moving the second reading of the Housing of the Working Classes Bill on March 15th, is reported to have said, that the insanitary and squalid conditions under which so many of the people lived, explained a great deal of the ill-health, the misery, the poverty, and a great deal of the labour unrest of the present day. Probably the worst housing conditions existed in South Wales. According to the Special Commissioner of the *Daily News*, who had been investigating housing conditions in South Wales, " the real problem in Glamorganshire is not that of the *minimum* wage, but the housing conditions of the miners." He read extracts from other newspaper reports showing the terrible state of overcrowding in many districts, particularly in the South Wales coalfield.

Proceedings.

THE Fifth Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, March 7th, 1912, at 8 p.m.

Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, having taken the Chair, in the unavoidable absence of the President, it was resolved that the minutes of the previous Meeting, having been published in the Journal, be taken as read. The minutes were then confirmed and signed.

Three nominations for membership and ten for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected:—

As Members:—

Brown, Edgar Oswald,	Hillcroft, Cross Lane, Gravesend.
Chasemore, Archibald Ellis,	159, Victoria Street, S.W.
Fincher, Percy Robert,	Glyn House, Penywern Neath.
Kemp, William James (Junr.),	Fairlawn, Sutton Road, Muswell Hill, N.
Miller, John Melville,	c/o Hutchinson, Wood & Miller, Montreal.

As Students:—

Brooke, Walter,	2, Providence Row, Cleckheaton.
Clark, Henry Stanley,	5, Abercorn Place, St. John's Wood, N.W.
Evans, Mark,	33, Empress Rd., Kensington, Liverpool.
Griffiths, Robert Charles Evans,	West Court, Bridgend.
Haslam, Frank Claude,	1, Rectory Road, Grays.
Holt, Felix,	22, Fort Street Magazines, New Brighton.
Marley, William Harhry,	Buttrils Road, Barry.
Miller, Walter Amos,	High Road, East Finchley, N.
Rebbeck, William Henry,	Mill View, Welshmill, Frome.
Richardson, Robert Harold,	Clarence House, Clarence Road, Wood Green, N.
Rhodes, Charles Swain,	4, Clifton Square, Lytham.
Sanders, John Edward,	208, Boaler Street, Liverpool.
Scott, Thomas,	The Orchard, Lemington-on-Tyne.
Turner, Thomas Edwin,	26, Parliament Hill, Hampstead, N.W.
Tutton, Alwyne,	76, Lynton Road, Gravesend.

Mr. A. Alban H. Scott, M.R.SAN.INST. (Member of Council), then read a paper on "The Testing of Materials for Reinforced Concrete" which was illustrated by diagrams and lantern slides.

Professor Henry Adams, F.S.I., M.INST.C.E., in proposing a vote of thanks, said reinforced concrete was a subject of vast importance to architects and would become more so in the near future. The keynote of the paper was "Be sure of your work; let it be tested and supervised thoroughly throughout the whole of its course." Testing and supervision were very important matters where the work was desired to be efficient and reliable, and like all other scientific constructions where calculations had to be made, it was necessary to ensure that the material was in accordance with what was intended and the workmanship of the very best, because no unnecessary surplus strength was provided. When they spoke of a factor of safety of 4 to 1, they were really providing for things which would happen but which could not be exactly measured, and he was of opinion that in at least 50 per cent of cases a factor of safety of 4 to 1 was in reality only 2 to 1. The L.C.C. regulations which had been referred to by Mr. Scott were not the most recent, and some of the objections had been removed.

The author was to be commended for emphasizing the need for all tests to be in accordance with actual practice rather than with laboratory conditions. It was for practical use that tests were wanted and in all cases the conditions in actual practice should be taken into consideration.

The testing of aggregate to ascertain its specific gravity was only required as an alternative method of estimating the amount of voids, otherwise he did not know that it was of any practical value. The testing of water, too, he thought, was only necessary when the source of supply was doubtful, or when there was some reason to suspect impurity in the water.

In paragraph 14, the author had stated that the cement for each six sets of specimens should be taken from the same consignment, but the speaker thought that it should read, "each set of six specimens," because it was necessary to have a number of tests in order to get a reasonable average; a single test would not do. The perfect set of tests would include such a number of specimens as would give practically a continuous curve passing through each of the groups, which was one of the values of plotting tests to curves.

He supposed that the welds referred to in the paper were end welds, *i.e.*, for the purpose of lengthening a bar, as there could be no objection to electric welding in the crossing of the various bars. It was where tension came in that welding was objectionable. As a rule the strength of a weld was 80% of the original bar. The 30% referred to by the lecturer must have been an exceptional case.

With regard to the consistency of concrete, the general preference among specialists was for it to be in such a state that after being tamped, the water just floated on the surface and no more, the concrete itself being in a quivering condition. The author apparently advocated a drier mixture, but there would then be a greater difficulty in getting it into actual contact with the rods, especially underneath them. A cubic foot of "Ferrocrete" Cement was said to weigh 72·2 lbs. and the weight of Standard Cement was, as stated by the author, 90 lbs. An interesting point arises with regard to weight. The specific gravity of Portland cement is specified to be 3·1, which meant 3·1 times the weight of an equal quantity of water, so that if a cubic ft. weighed 90 lbs., 3·1 times 62½ was say 180 lbs., then there must be 50% of voids in "flour" cement although it seemed to lie quite close. The mode of filling the measure affected very considerably the weight of cement and that was the reason why it was desirable to take it by weight rather than by measure. The figure of 76·2 would probably have been increased to 90 if the measure had been filled in the standard manner.

The author had referred to the rate of testing briquettes of cement, and had stated that there was an increase in strength obtained by putting the load on suddenly. He, the speaker, thought Mr. Scott should have said "an apparent increase," as there was no more strength in the briquette than if the weight was put on slowly. The indication of greater strength by adding the load rapidly was more remarkable in the testing of steel, and he remembered that in earlier days with the old-fashioned testing machines of the long lever and scale-pan type, the operator was supplied with a number of weights of various sizes, and it required a great amount of dexterity on his part to change the small weights for a large one of equal value before going on again with the small ones, the object being to get on as many of the weights as possible before the metal gave way. That was at a time when there was no recognized rate of applying the load.

The coating of grout that was objected to by the author was worded in the L.C.C. clause to the effect that, *if coated*, the grout must be put on immediately before putting in the concrete, which meant that if any coating was put on it should be done immediately before the concrete was put in, or not at all. Mr. Scott would be glad to hear that this reference was excluded from the latest draft and there would probably be no mention as to coating.

Mr. E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President), in seconding the vote of thanks, said all had listened with attention to Mr. Scott's valuable paper, and he thought the following points were of particular interest to architects using reinforced concrete in a small way and not to the extent of those persons who make a speciality of that kind of construction. They were :—The utmost importance of seeing that the concrete was well mixed, in order that when it set it should be a homogeneous mass taking good hold of the iron. The centering should be strong enough to take the load without allowing the concrete to sag before it had set. It should be the general practice to have briquettes made and samples of concrete taken and submitted to proper and adequate tests at regular intervals and stages. From his own experience, architects had to be very careful in accepting designs from many so-called fire-proof specialists, because they were very often not to be relied upon, the steel being stressed up to considerably more than the R.I.B.A. standard, and the concrete apt to be put much more into compression, so much so that in cases of sudden shock it occasioned a material decrease in the efficiency of the floor.

Mr. W. G. Kirkaldy, a.m.inst.c.e., in supporting the vote of thanks, said he was quite in accord with Mr. Scott in his remarks about the coating of grout, and he was very glad to hear from Professor Adams that the point would be got over in the L.C.C. final rules. He could, perhaps, contribute more to the value of the discussion by presently explaining some of the specimens on the table.

Mr. S. Bylander said he had found it a very difficult matter to submit the various materials to tests. In the construction of the Automobile Club some hundreds of tons of cement were used and he was very anxious that it should be properly tested. He therefore arranged that the cement at the works should be placed in bins and sealed, and then samples taken and tests made, and when found satisfactory the cement was to be taken to the job. The principal difficulty in carrying out more exhaustive tests seemed to be the question of cost. With regard to the testing of finished concrete he thought it would be an advantage to have some rule to work by, and he hoped that the Engineering Standards Committee, or some such body would take the matter up and issue some regulations. With regard to the form of the test pieces, he thought 4 × 4 was not satisfactory, the aggregate used being too large in size to be properly placed ; a 6 × 6 would be much better. The strength of steel being 60,000 lbs. per square inch he would like to know why Mr. Scott limited the tensile strength to 72,000 lbs. He did not understand the author's reference to the elastic limit of steel. He thought it was necessary to have a high elastic limit because it was that which determined the safety of the structure and not so much the ultimate strength of the material. They did not wish to have a very hard steel because it was brittle. In paragraph 22, Mr. Scott referred to " Aggregate and Coarse Material," but he understood it to mean " Aggregate *or* Coarse Material," the latter being the term adopted in the regulations.

Mr. G. A. T. Middleton, a.r.i.b.a. (Hon. Librarian), said he would like to ask what percentage of water Mr. Scott would advocate as a general rule ; he believed 20% was usual. It appeared to him that a dry mixture had its disadvantages. Mr. Scott had spoken of having put his steel members three-quarters of an inch apart but that he preferred to put them one inch apart. In a complicated structure with a great deal of steel work it must still, with the steel members so close together as this, be exceedingly difficult to tamp the concrete right down to the bottom ; whereas, with a comparatively wet mixture this could be more readily done, leaving the bars in their original positions. It had interested him very much to hear the remarks of the lecturer on one of the lantern slides regarding the percolation of water in a case where the curbs of a fanlight on a large concrete roof were not put on at the same time as the roof was laid. The floor appeared to be of a very large area, and he presumed that the whole had to be put in at one swing, and that there must not be a break of a day between one operation and another. He imagined that breaks must occur sometimes in the case in large areas where water percolation was a matter of very great importance. He thought the paper they had before them was one of the most valuable technical papers ever read before the Society.

Mr. P. M. Fraser, A.R.I.B.A., thought they did not quite realize that cement and steel could only be tested under laboratory conditions, which argued that the testing of made concrete was more valuable than the testing of cement and steel. No means had been devised, so far as he was aware, for testing reinforced concrete blocks, and it had often occurred to him that there should not be much difficulty in testing a twelve inch cube of concrete slightly reinforced. He heartily endorsed Mr. Scott's remarks to the effect that general contractors had taken to reinforced concrete construction like ducks to water, and he wished the same could be said of the professional man. It was quite remarkable to see the way in which the contractors turned out consistently good work, with better results than could be shown on the Continent or in America. Mr. Middleton advocated wet concrete because it was easier to work with, but it had been proved conclusively that dry concrete was stronger than wet, and to advocate the use of the latter because it was easier to work seemed a very immoral precept. The testing of materials after delivery at the works was a matter of great importance. They all knew the way cement was sometimes stored, in a shed made of say 50% weatherboard and 50% daylight. When the cement ran short, a further supply was added and at the end of the job they got cement which had been lying there for many months, and that was the cement which required testing. In paragraph 9, Mr. Scott advocated four tests for aggregate, and there might have been added a fifth he thought for testing the maximum and minimum sizes. The L.C.C. regulations stated that only what was known as the "hooped core" of columns should be relied upon for resistance. He hoped it would be cut out of the revised edition, because it was a bad principle, for the reason that taking two columns of the same size one reinforced and the other plain, if the reinforced column was calculated on the "hooped core" it would often be found that the plain concrete column came out stronger, size for size, than the other, which was he thought an absurdity. The difference between hand mixing and machine mixing was very real, and an analogy might be drawn between a stoker of a boiler and a stoking machine, the latter giving far better results than the human stoker. With regard to the speed of testing and the running up of the apparent strength, a few weeks ago he had been present at some testing operations when he had asked permission to use one of the machines as it was obvious that the men were testing too quickly. Upon easing the rate of loading he obtained much lower results, with the obvious retort that he knew nothing about testing. With regard to the weight of cement or concrete, some advocated this added by weight and some by volume, but in the specification alluded to by the author the difficulty was overcome by specifying that the size of the gauge box should be altered to accommodate 90 lbs. of the cement used.

Mr. J. Herbert Pearson (Member) asked for a further explanation of the diagram referring to Aggregates and Sands. He understood that the lecturer had constructed a concrete roof 4″ thick, which had not been rendered on the surface way yet which was waterproof, and he would like some information as to the manner in which that concrete was made up. Mr. Scott had called attention to the difficulties which arose in getting a joint between two sections of reinforced concrete dealt with on two separate days, but under certain conditions he thought it would be impossible for the second section of concrete to follow immediately after the first, and in those circumstances he would like to know what the lecturer would suggest to get over the difficulty of preventing any water percolation.

Mr. H. T. Cover (Member), asked whether Mr. Scott had made any experiments regarding the strength of steel joists and concrete floors. He came across a case recently where some workmen were lifting a load of two tons on a jack with a base 14″ square placed between two steel joists 5 × 3 of 6 ft. span and 4 ft. apart with six inches of concrete.

Mr. Percy B. Tubbs, f.r.i.b.a. (Vice-President), said he had had very little experience in the use of reinforced concrete, as he had avoided the use of it as much as possible, but what he had done had not turned out very satisfactory nor had he found it cheap. He had recently had occasion to use it to carry a surface drain where the foundations were too bad to support it in the ordinary way, and the local authority had required him on a 14 ft. span with a beam 18″ square to use 4″ of steel exactly double the amount considered necessary by the engineers. He might just as well have used steel joists. The supervision of reinforced concrete work put additional responsibility on the architect who, if he undertook such work, should be paid not only for his professional services but for acting as Clerk of Works also.

The Chairman then put the motion to the meeting and a hearty vote of thanks was accorded to Mr. Scott for his lecture.

Mr. A. Alban H. Scott, in reply, said he was pleased to hear from Professor Adams that the clause referred to was to be omitted in the L.C.C. regulations; he did not know whether it had been finally adopted by the County Council but he hoped that it would be.

With regard to the question of the weight of cement, he believed that in the original report of the R.I.B.A. Joint Committee on Reinforced Concrete the weight was specified 76 lbs. per cubic ft., and the tests in the tables referred to were made under the same conditions, and since then the 90 lbs. had been adopted; the question of the weight or measure of cement was far from satisfactory however, and as Mr. Fraser had said they always adopted a method of testing the weight of cement per cubit ft., and they would see at the bottom of one of the tables the extraordinary results they obtained. They so increased their cubic measure as to accommodate not less than 90 lbs. It was a fairer way both to the contractor and to the client and it certainly got rid of carelessness on the part of workmen in throwing aggregate into the scales. There was enormously hard wear on any form of weighing machine ; the scales must be out of truth within two or three days of their use.

Mr. Monson had referred to the difficulty of making tests themselves, but he had specifically mentioned in his paper that all tests should be made by an independent firm, for many reasons, one being that no architect or engineer, no matter how large their practice might be, could possibly afford the plant and apparatus necessary to get proper results. Home-made tests were useless, they did not show what the ultimate strength was and the cost rendered it impossible for any individual to get a machine to test steel up to, say 72,000 lbs. per square inch. Even £2,000 per machine would be impossible for any architect or engineer with the largest practice, and no matter how well up in these matters an architect might be, he could not be an expert in testing ; he might be interested in the subject and deduce his opinions from the ascertained facts of other people, but he, as an architect, was not the proper person to carry out the tests. The only real test on the job was a test of the structure and that he was dead against unless they only applied the superimposed load for which the structure was designed ; and he hoped that when the L.C.C. regulations came into force that some of the work which would be subjected to a test of 1½, such load would collapse (without loss of life), because in his opinion it was asking for trouble and permanently weakened the structure.

Mr. Kirkaldy had very kindly lent some of the test specimens before them and had offered to explain them at the conclusion of the discussion, and many interesting specimens would be seen.

He was glad to hear that Mr. Bylander did not agree with the 4″ cube for testing. It was not sufficiently large for testing with the aggregate they were using, namely, ¾″. The reason he advocated a 6″ cube was that it was better to make, and was more to the shape which was adopted in work generally, and with a circular column they were all the time tending to get a very much better and more consolidated mixture than they did with the square one, because in the former they could ram so much better than with the latter, and with the square one they had the corners to contend with as in actual work. With a 6 × 6 × 12, a double quantity of material would be required, and on a big job the cost of material submitted for testing was considerable. He did not think a 12″ cube would serve any further purpose than a 6″ cube. The former was apt to bind the material for perhaps one-hundredth part of a second longer than the latter, which was quite large enough to give them results which they could reasonably expect to get in the actual work.

Mr. Bylander had asked why he limited the strength of steel to 72,000 lbs. His answer was that if they got it above that there would be a tendency to increase the carbon. If they increased the strength of steel beyond 72,000 lbs. there might be a tendency eventually to increase the safe load. It was undesirable, he thought, to increase the basis of 60,000 lbs. and it gave the steel people a range of 12,000 lbs. which was ample. If they allowed them a wider range than that, it opened up the probability of makers using a foreign material; whereas, with British steel they had a better chance of getting evenness of quality in the metal. The term "Coarse Material" was now used instead of "Aggregate" in all official documents, and he had adopted it.

Mr. Middleton had suggested that a definite proportion of water should be stipulated, but it was impossible to determine the point because it depended upon so many things. First of all upon the kind of aggregate used, then the way in which the cement was put in, the temperature and so on; and while on a rainy day a certain proportion would be found ample, on another when the sun shone, the same proportion would be altogether unsuitable. The exact proportion of water could not be arrived at, although the matter had been before experts a great many times.

The question in regard to the disadvantages of wet concrete had been very forcibly answered by Mr. Fraser. He did not see why they should sacrifice good work for the sake of a little extra labour on the part of the contractor, who knew exactly what they wanted and allowed for it in his prices. The very best work must be had or they had better leave the whole matter alone. The cost of concrete at the present time was 25*s*. or 27*s*. per yard, and he did not care if the price rose to 30*s*. so long as better work was given for it. With regard to the percolation of water through the joints in concrete, in the particular case he had instanced, the work was situated in a very windy place, and one where 108 inches of rain fell during the year. When he made the remark that water percolated through the cracks where the concrete had been joined he meant to say that they did not get such perfect adhesion as was obtained when the concrete was laid in one operation, but they did get sufficient to protect the metal from the weather, and it was good enough for all ordinary purposes, but when they came to test it under great water pressure the leakage was always at the juncture of the material. The surface should be well hacked away, cleaned and wetted, before the next concrete was laid down, but it would never be so strong as if it were laid all together. He did not know that any useful purpose would be served by testing a 12″ cube of concrete reinforced; it would necessitate very elaborate tests and private people could not undertake it nor could their clients be asked to have it done. Mr. Fraser said he could not understand why only part of the concrete within the metal hooping should be calculated for resistance to compression in the L.C.C. regulations. There was a great tendency to increase considerably the amount of hooping, and also, the area of the bars would be much more than was the usual practice. In doing that it was proper to take only the interior part of the concrete, because with so much metal and the hooping so very close, the concrete, being only about 1½″ beyond the metal, there was a possibility of the steel separating the concrete into two different forms of structure. There was not the same strength on the outside of the column as on the inside; whereas, with plain concrete there was more or less equal strength throughout the mass, and further, the outside concrete was only to protect the metal in case of fire and to partly assist in preventing the vertical bars from bulging out when under stress.

With regard to the roof of reinforced concrete to which he had referred, there was no covering upon it, and there was a fall of 3″ in 75′. The concrete was well done, the proportions of the material being 3 of Cement, 5 Sand, and 10 of Aggregate. A proportion of 1 to 5 was not a very rich mixture, but it must be borne in mind that they were measured separately; when mixed it was more like 1 to 4½ or 4¼. The remarks made regarding 5 × 3 steel joists with concrete between taking a load of 2 tons showed the possibility of concrete and indicated the further possibility of reinforced concrete. Their Chairman had spoken of the financial point of view, and he, the speaker, could assure them that reinforced concrete would never have been used in England by industrial firms if the financial question had not entered into it to a very large extent. Flat roofs were infinitely cheaper and floors of reasonable span could always be done cheaper in reinforced concrete than in steel or wood. The whole matter was a question of proper design. A beam 18″ × 18″ was probably the most uneconomical section one could have in reinforced concrete. A 9 × 20 or 9 × 24 would probably give the same strength with much less material and the two inches of metal mentioned did not seem very excessive. Architects' supervision was a very big point. Reinforced concrete was work which should be done properly or not at all. He, personally, never employed a clerk of works as ordinarily understood, but sent out trained assistants who superintended the job with the help of an inspector. By such means they got infinitely better results; their clients paid their assistants and inspectors while on the job, and it got over all the difficulties of supervision. After all, an architect was only responsible for reasonable care and attention, and he had never seen a job where the architect had given reasonable care and attention come to any harm.

Visits to Works.

Arrangements have been made for a visit to the Works of Messrs. A. Sanderson and Sons, Ltd., Wall Paper Manufacturers, Turnham Green, on Thursday, April 18th. The party will assemble at the Works at 3 p.m. Names should be sent to the Secretary by April 15th.

Testing of Materials used in Reinforced Concrete.

By Mr. A. Alban H. Scott, M.R.San.Inst. (*Member of Council S.A.*),
Hon. Secretary of the Standing Tests Committee of the Concrete Institute.

(1) When I was honoured by the invitation from your President and the Council to give a paper on the "Testing of Building Materials," I originally thought of treating the matter from a broad standpoint with regard to the various materials used in ordinary building construction, but upon further consideration I came to the conclusion that concrete and reinforced concrete were now being used so extensively and for such a variety of purposes and its possibilities are so expansive that it required at the present stage some further careful investigation by architects, both as to the strength and properties of the various units, as well as the finished material.

(2) The necessity for some very serious consideration has been particularly impressed upon my mind, in view of the fact that certain figures are being laid down as the ultimate strength of concrete by the various reports and regulations issued comparatively recently.

(3) These figures seem to have been based upon results obtained from Laboratory made specimens only, made under the most favourable conditions, without any allowance for the more or less rough methods which are only obtainable at present on the actual construction. In making some of the Laboratory test specimens the materials are very accurately gauged, thoroughly and evenly mixed and in lieu of the ordinary punning and slight ramming (if any) which the materials get on the works, they are subjected to pounding down with a heavy hammer, thus getting an artificial result, such as it is impossible to attain under the most perfect conditions obtainable on even a perfectly organized job.

The test results dealt with in this paper are such as can be reasonably expected from work executed under a specification such as the author published last year; but even these results can only be expected if professional supervision is given, not only to the general work, but also to the most minute points.

In the past there has been a difficulty, for reinforced concrete demands greater study than any other material used in constructional works. Architects, except for a comparative few, have until recently been too slow in making themselves acquainted with and proficient in this class of construction. Engineers were still worse and clerks of works and general foremen who are really fit to take charge of a fair-sized job of reinforced concrete are few and far between. All this, however, is now being rapidly changed, and it has been realized that concrete and reinforced concrete are entirely different materials.

(4) It has always seemed to me to be inconsistent to take elaborate precautions to obtain cement of a high and even quality, and treat the other component parts as if the ultimate strength of the concrete did not also rely upon their influence.

(5) The following is an outline of the procedure which I would suggest, should generally be adopted with regard to the testing of materials for reinforced concrete work.

(6) All tests to be made at an independent testing and experimental works.

(7) TESTING OF CEMENT.—The cement to be tested from samples taken from the bulk in various parts of the bins at the makers' works. After the cement has arrived on the job, samples should be again taken from various bags, thoroughly mixed and again tested, and further tests made from time to time as the material is being used in the works, the number of these tests being regulated by the magnitude of the consignment, and the time taken in using same.

(8) All tests of Cement should be made in accordance with the latest Specification of The British Standard Specification for Portland Cement, with the *further* test for ascertaining resistance to thrusting stress of both neat cement and also cement and sand, in the same proportions used for the tensional briquettes.

(9) AGGREGATE OR COARSE MATERIAL.—A sample in bulk to be delivered on to the works, a sample taken and tested :—

1st. For freedom from loam and other foreign matter.
2nd. For the proportion of the various sizes of the crushed material.
3rd. For the amount of voids.
4th. For specific gravity.

Tests repeated on the material being used in the works from time to time as may be considered desirable.

(10) SAND.—Sand to be treated in exactly the same way as aggregate, and in addition a test for the amount of material that will pass a sieve of 1/50″×1/50″ apertures should be ascertained ; this, which can be called " flour," should be rejected.

(11) WATER is tested to see that it contains no unusual or injurious properties.

(12) STEEL to be first inspected at the makers' works with a view to ascertaining :

1st. Whether welds have been made.
2nd. For surface defects.
3rd. Correctness of diameters.

(13) Every rod over ¾″ diameter must be stamped with a die *as having been inspected.* Smaller bars may be bundled and tie stamped. Sample lengths are taken from the actual rods, which are duly stamped and sent to the testing works for the purpose of ascertaining :—

1st. Their ultimate strength.
2nd. Their elastic limit.
3rd. Their elongation and contraction of area.
4th. To observe the structure of the metal at fracture, whether the same is silky, granular or fibrous.
5th. Bending test.

All these tests to apply to rods and wire from and including 3/16″ diameter and upwards.

(14) CONCRETE.—The test specimens of concrete should be of a standard size of 6″ cube. Six specimens made for each test, three made in the Laboratory and three on the works. The cement for each six sets of specimens to be taken from the same consignment. The Laboratory tests specimens should be made as far as possible on practical lines so that the result should be such as can be reasonably expected from concrete in the actual work.

(15) All specimen pieces made on the works should be made from concrete taken from the actual mixing platform. All such specimens should be made in metal moulds, and the concrete worked in by punning and tamping to the same degree as has actually taken place in the structure. Six test cubes should be used for each test and the tests should be made at the following minimum periods :—

7 days.
28 ,,
56 ,,
90 ,,
and 1 year.

For the purpose of record and research work such tests should be carried out at the following periods :—

7 days.
28 ,,
56 ,,
90 ,,

6 months.
9 ,,
12 ,,

2 years.
3 ,,
4 ,,
and 5 ,,

(16) CENTERING.—No mechanical tests are required for this, but when the strutting is being placed into position, rough calculations should be made to see if any undue deflection or movement is likely to take place during the process of placing the moist concrete into position, and inspection made to see that the joints have been properly filled up by rubbing with hard bar soap or other material to prevent dripping of the cement and sand.

(17) We might now consider whether the tests mentioned above are reasonably required, and before proceeding to do so, a few remarks on the work the material is called upon to do, may not be out of place. In reinforced concrete the concrete takes compression and shear; the steel taking *all* the tension and assisting for horizontal and vertical shear and compressional strains. The concrete being stressed to not more than 600 lbs. per square inch in compression, and 60 lbs. per square inch in shear; the steel in compression in beams not more than nine times per square inch that of the adjoining concrete, and in columns not more than fifteen times that of the adjoining concrete and steel in tension 15,000 lbs. per square inch and the adhesion of the concrete to the steel 100 lbs. per square inch of actual contact.

Percentages of Voids in Various Aggregates and Sand.

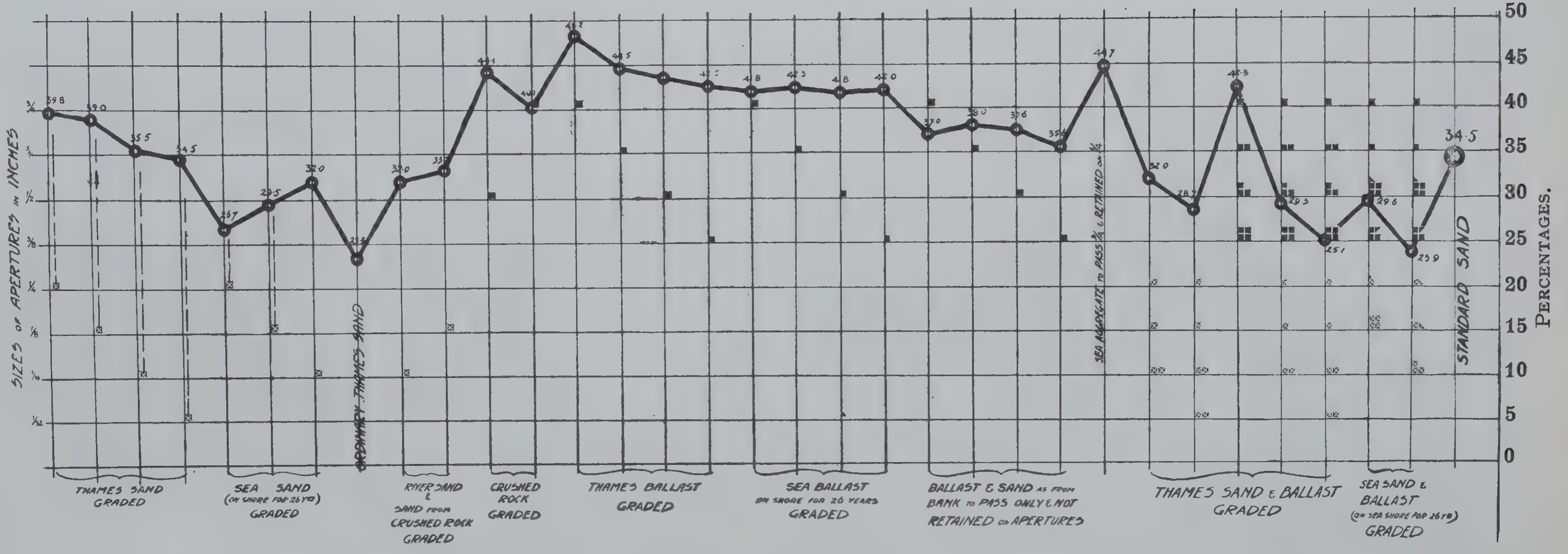


Diagram No. 1.

(18) These figures being subject to various conditions, such as the efficient tying in of the steel in compression to prevent bulging of the rods, proper proportion of metal to the concrete and spacing of the steel. In the case of columns the effective area of concrete is only taken as that part which is hooped in by the ties to the vertical steel members.

(19) If we are working to a factor of safety of a fourth of the ultimate, the ultimate resistance to thrusting stress of the concrete should be not less than 2,400 lbs. per square inch, the resistance of concrete to shear 240 lbs. per square inch, and the steel 60,000 per square inch ultimate tensile stress.

(20) These figures shew that all the materials are called upon to be of high efficiency, and to work in harmony and simultaneously together and have been adopted in consideration not only of their ultimate resistance but also the relative co-efficient of elasticity.

(21) The work is designed on the assumption that *the materials actually used in the construction* are capable of resisting these stresses.

(22) The following are a few reasons why the author considers the Tests necessary :—

> Aggregate and Coarse Material.—It has been found that most aggregates (unless washed) contain loam and other foreign matter. A sample of river aggregate recently tested, gave as much as 7% of loam and most loams have a surprising covering power, being of the very finest of "flour," and consequently when the cement is added there is a thin film between the cement and the actual silicious material, thus preventing the cementing together of the particles.
>
> Some time ago it was advocated in certain quarters that the presence of loam in aggregate did not decrease, but rather increased the strength of concrete, a slight mistake was made there, the material which was mistaken for "loam" actually contained certain cementing properties which had the effect of making the concrete a richer mixture.

(23) With aggregates which are practically uniform in size, or if the various sizes are not properly graded, proper bond is not obtained between the various materials as the mortar is concentrated and thus a portion of the mixture is deficient in cementing materials, therefore it is most desirable that the grading and voids should be worked out very carefully and, with certain exceptions, it is found, within limits, that the grading which gives the smallest amount of voids in the aggregate and sand results in concrete of greater strength. With aggregate and sand containing a high percentage of voids, a greater proportion of cement is required.

Diagram No. 1 illustrates the extraordinary differences in percentages of voids contained in various kinds and sizes of materials.

(24) It is possible to arrange these results in various ways, the diagram showing one method, but the following table may be found convenient.

	Size square apertures	3/4	5/8	1/2	3/8	1/4	1/8	1/16	1/32	1/50	Not graded
	Parts	1	1	1	1	1	1	1	1	1	
1. Thames Sand ..	Perc. of voids	—	—	—	—	39·9	39·0	35·5	34·5	—	
2. Sea sand on shore 26 years		—	—	—	—	26·7	29·5	32·0	—	—	
3. Ordinary Thames Sand		—	—	—	—	—	—	—	—	—	23.3
4. River Sand ..		—	—	—	—	—	—	—	—	—	32·0
5. Sand from crushed Rock		—	—	—	—	—	—	—	—	—	33·2
6. Crushed Rock ..		40·1	—	44·1	—	—	—	—	—	—	
7. Thames Ballast Graded		48·2	44·5	43·5	42·5	—	—	—	—	—	
8. Sea Ballast ..		41·8	42·3	41·8	42·0						
9. Ballast and Sand as from Bank to pass only and not retained on apertures		37·0	38·0	37·6	35·6						
10. Thames Sand and Ballast not crushed	Parts	—	—	—	—	1	1	2	2		
		—	—	—	—		32·0				
,, ,,		—	—	—	—		28·7				
	Parts	1	2	3	4	1	1	2	2		
,, ,,				42·3							
,, ,,					29·3						
,, ,,					25·1						
11. Sea Sand & Ballast	Parts	1	1	4½	3½	1¼	3¾				
				29·6							
Ditto	Parts	1	1	4½	3½	1½	1½	3			
					23·9						
12. Standard Sand passing 20 × 20 retained on 30 × 30 mesh sieve ..			34·5								

(25) In this connection it should be remembered that as the number or particles increase so the proportion of the cement to the whole should be also increased owing to the greater covering power required. A test cube made with a very small amount of aggregate and a large amount of sand with the usual proportions of cement, gave an ultimate resistance to Thrusting Stress of only about 600 lbs. per square inch, such low result was entirely owing to the fact that the usual amount of cement in that case was not sufficient to properly cover each particle of the sand and aggregate, and a perfectly cemented and homogeneous mass was not obtained.

(26) The ultimate resistance of any material is its strength at its weakest point, and the actual area of the concrete is the gross area minus the area of voids at any section ; it is therefore necessary that the ascertained percentage of voids in the aggregate and sand should be entirely filled up with cement with an additional allowance for completely surrounding each particle. The usual rough and ready means of determining the "exact" proportion of the cement to the sand and aggregate have resulted in many cases of disaster.

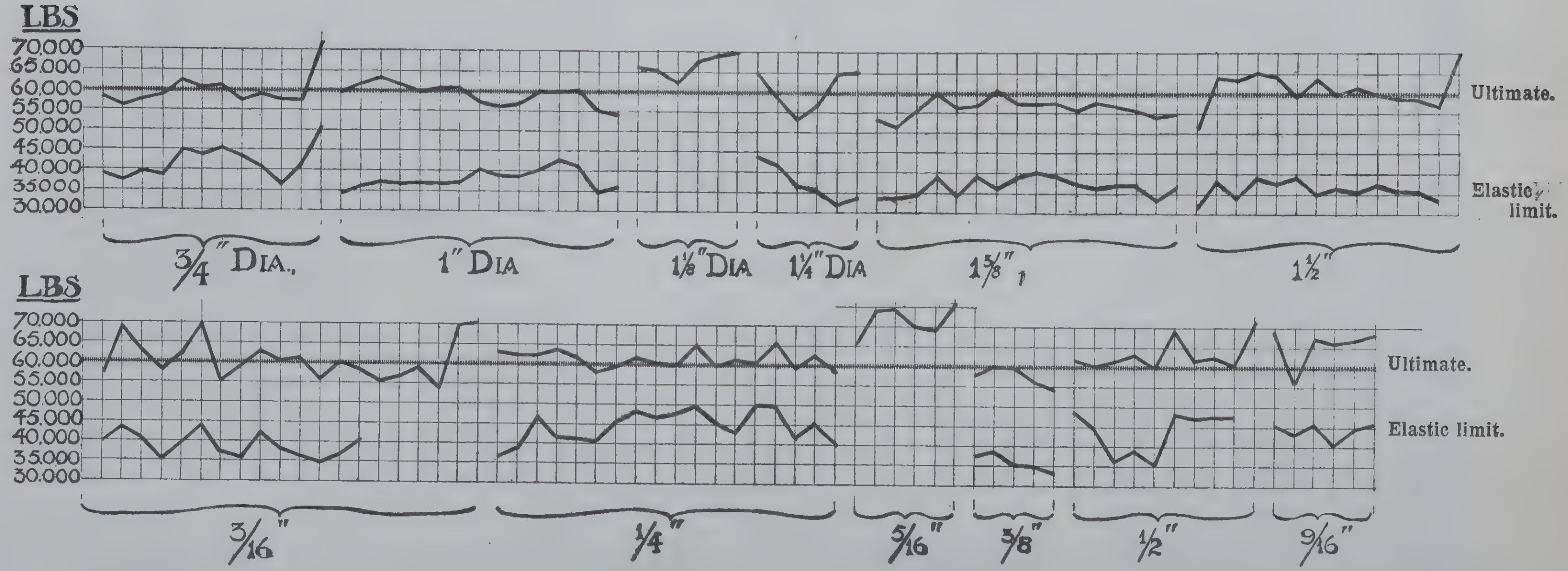
(27) The specific gravity of sand and cement should be taken in order to compare with the weight of the test specimens as such weight is materially affected by the original weight of the aggregate and sand. There are at least two methods of ascertaining the amount of voids, one is by ascertaining the specific gravity of the material used, and secondly, by allowing the aggregate and sand to absorb moisture then to dry the surfaces without extracting moisture from the material, and then in the test tubes to add water until such time as the level of the aggregate and the water is at the same point.

(28) WATER.—The water usually obtained from town supplies can be taken as of proper quality for use in concrete work, but in country districts, water obtained from wells and reservoirs often contains foreign matter, such as peat and other vegetables, and it has been found that the use of peaty water retards the setting of the cement ; in one case the concrete did not set for a period of three weeks, at which stage the concrete was still very soft and was taken up.

(29) STEEL.—In no part of the steel for Reinforced Concrete should welds be allowed. Welds can be made in various ways, but it is impossible to test each weld and in these joints it is not an exaggeration to say that not one weld in 500 would be of equal strength to the rest of the bar, and it has been ascertained with most disastrous results that the strength at the point of the weld goes so low as 30 per cent. of the bar adjoining. This is caused not so much by the lack of amalgamation of the material itself, but generally by the fact that large voids are left right in the centre of the joint.

(30) Surface defects in steel are often found in the ordinary commercial bars, being indicated by most minute cracks generally starting in the shape of a "V." Although such defects are in themselves perhaps almost innocent, yet immediately the material is subject to any stress they develop in a most alarming manner.

Elastic and Ultimate Strength of Steel Bar per square inch.



(31) It has been found that the diameters of bars vary from that specified, resulting in one case of a loss of 12 per cent. in the *area*, excess diameter is also often met with, and as the final measurements are taken on a basis of the correct diameter, such excess of diameter will often be the solution of the difference found between the surveyor's measurements and the weight alleged to have been used by the contractor, Reinforced Concrete work being designed on the assumption that the whole of the materials employed are exactly in accordance with the Specification, a reduction in area of the bars is most serious.

(32) *a*. The ultimate strength should be taken at not less than 60,000 lbs., and not more than 72,000 lbs. per square inch.

According to the diagrams, I think you will admit that it is necessary to keep a very careful watch upon every piece of steel that is brought on to the site.

b. The elastic limit is also of the utmost importance, as although steel might have a high ultimate resistance, the elastic limit might be so low that in case an accidental load is placed on the work, a sudden collapse might take place; whereas, by use of material with a proper elastic limit, proper warning would be given before its sudden failure.

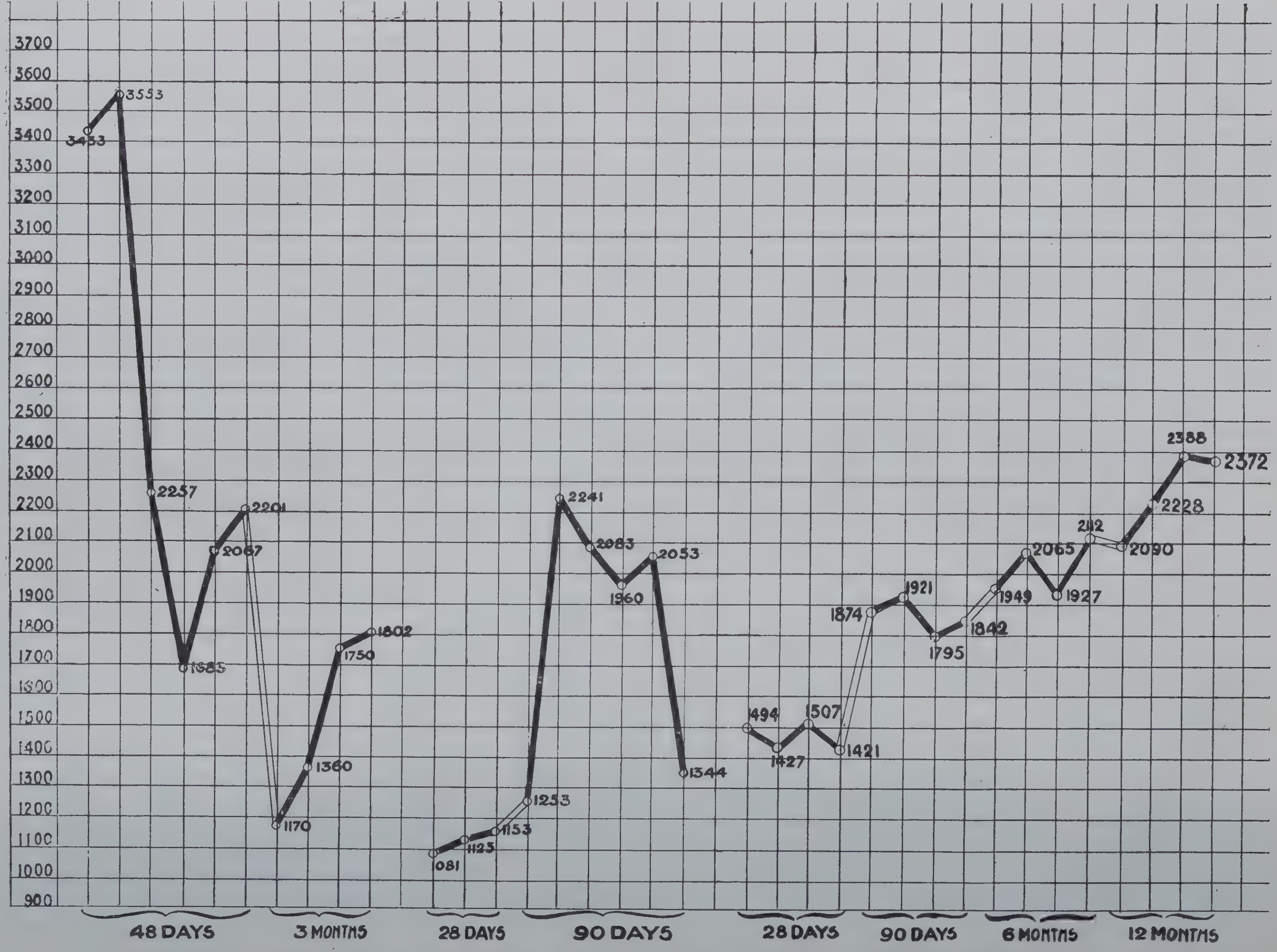
c. It is essential that steel should have such properties as will enable it to take a gradual and uniform extension, thus indicating a uniformity of quality; and the contraction of area at fracture should not be less than 45 per cent. for bars 1″ diameter and under, and 40 per cent. for bars over 1″ diameter.

(*d*) A silky fracture indicates uniformity and a good mild steel, so far as the metal, as metal, is concerned. Granular grain indicates brittleness and unequal quality.

(33) CONCRETE.—I think it is safe to say that of all materials used in the building trade, concrete is liable to and does vary more than any other material. Even if every care has been taken to see that each unit is of its proper quality and strength, yet we have in the finished concrete, to reckon with a very large amount of human element. One gang of men may produce concrete of the best quality, and another gang on the same work with similar materials may give very indifferent results. This depends a very great deal upon the head ganger, and upon the foreman who selects such ganger. With a good machine mixer, the possibility of human error is considerably decreased, but at the same time an improperly designed mixer is, in my opinion, more dangerous than mixing the concrete by hand.

(34) The Table 3, shows that concrete which has its setting somewhat retarded by sprinkling with water, gives generally higher results than concrete which was allowed to dry under normal conditions. The question arises here, however, as to the consistency of concrete not only from the point of view of the strength of the concrete itself, but rather as to what consistency will give the best results in actual practice from the point of view of contact with the metal, resistance to crushing,

Concrete. Resistance to Thrusting in lbs per Square Inch. Proportions: 3 Cement, 5 Sand, 10 Coarse Material.



and shear, and although it is essential that only as little water as possible should be used to prevent airholes occurring after the water has been evaporated, I would feel inclined to use a concrete slightly wetter than the average practice in France, but certainly much drier than the general present use in England.

(35) Comparatively wet concrete will not allow of it being rammed or "tamped"; whereas, to get a drier concrete into its correct position, tamping and gentle ramming is essential. As the whole of the strength of Reinforced Concrete depends upon proper adhesion of the concrete to the steel, it is an essential factor that the concrete is gently rammed at every point.

(36) The architect has therefore a much better chance of making sure that the concrete is properly placed in position and properly worked between the reinforcing metal, and the greatest trouble has been found to be with Contractors wishing to make the concrete wetter than is desirable owing to the fact that a wet concrete is more easily placed in position with much less labour than a dry concrete.

(37) The influence of the percentage of water used is shown in diagram No. 3, which is the result of a series of tests which Mr. Kirkaldy carried out for the purpose of arriving at some definite conclusion as to the very debateable point of the efficiency of wet and dry concrete.

(38) The usual period of the first test on concrete has until recently been 28 days, but with important structures, to obtain tests at 28 days after the concrete is made, is not going to be of very much use for early correction when the work is being rapidly pushed forward, therefore a seven day test is essential, so as to be able to immediately detect any error in any of the materials or workmanship.

(39) At the present moment there are few tests at seven days, so that for the present the reasonable resistance of concrete at this period has not been definitely ascertained. (Approximately 350 to 400 lbs. per square inch.) Such tests in connection with the 28 days' tests will also give most useful information with regard to when it is safe to strike the centering, and when one considers the failures that have taken place owing to the centering having been removed too quickly, a seven days' test will undoubtedly become a recognized factor very shortly.

(40) The 56 days and 90 days' tests are desirable as they show what is actually taking place in the work with regard to the increase or decrease in the strength of the structure.

(41) The concrete up to about six months of age increases in strength fairly rapidly, but it is curious that from about six to nine months the increasing resistance to Thrusting Stress is very trifling, but after nine months the strength of the concrete again continues to increase at a more rapid rate, although not so rapid as during the first six months.

(42) For the purpose of research work and where the importance of a job will allow it, it is most desirable that specimen pieces should be made in sufficient number

TABLE 3.

Results of Experiments to ascertain the resistance to Thrusting Stress of

Test No.	Description.		Weight.	Dimensions.		Base Area.	Crushed.				
							Stress	Per sq. in.		Per sq. foot.	
s s	Age 28 days.		lbs.	inches.		Sq. ins.	lbs.	lbs.		tons.	
2,975	Mixed fairly wet (as in practice) A	Not sprinkled	17·90	6·00	6·00 × 6·00	36·00	34,980	972	1,026	62·5	66·0
2,976			18·17	6·02	6·00 × 6·00	36·00	36,080	1,002		64·4	
2,977			18·31	6·04	6·00 × 6·00	36·00	39,430	1,095		70·4	
2,978			18·16	6·04	6·00 × 6·00	36·00	37,350	1,039		66·7	
2,983		Sprinkled with water every other day for first 3 weeks	18·60	6·10	6·00 × 6·00	36·00	42,750	1,187	1,118	76·3	71·9
2,984			18·31	6·04	6·00 × 6·00	36·00	37,920	1,053		67·7	
2,985			18·43	6·01	6·00 × 6·00	36·00	41,500	1,153		74·1	
2,986			18·32	6·02	6·00 × 6·00	36·00	38,890	1,080		69·5	
2,991	Mixed fairly dry (not rammed) B	Not sprinkled	18·04	6·01	6.00 × 6·00	36·00	67,700	1,881	1,718	121·0	110·5
2,992			18·02	6·00	6.00 × 6·00	36·00	64,300	1,786		114·9	
2,993			18·15	6·03	6.00 × 6·00	36·00	54,700	1,519		97·7	
2,994			18·34	6·06	6.00 × 6·00	36·00	60,700	1,686		108·4	
2,999		Sprinkled	18·22	6.05	6·00 × 6·00	36·00	57,300	1,592	1,668	102·4	107·3
3,000			18·26	6.04	6·00 × 6·00	36·00	64,600	1,795		115·4	
3,001			18·10	6.00	6·00 × 6·00	36·00	58,800	1,633		105·0	
3,002			18·17	6.02	6·00 × 6·00	36·00	59,500	1,653		106·3	
3,121	Mixed fairly dry (rammed) C	Not sprinkled	18·36	6·01	6·00 × 6·00	36·00	68,000	1,889	2,018	121·5	129·8
3,122			18·58	6·04	6·00 × 6·00	36·00	75,000	2,083		133·9	
3,123			18·28	6·03	6·00 × 6·00	36·00	73,630	2,045		131·5	
3,124			18·37	6·03	6·00 × 6·00	36·00	74,010	2,056		132·2	
3,129		Sprinkled	18·50	6·04	6·00 × 6·00	36·00	71,460	1,985	2,032	127·6	130·7
3,130			18·66	6·03	6·00 × 6·00	36·00	74,270	2,063		132·7	
3,131			18·56	6·04	6·00 × 6·00	36·00	74,860	2,080		133·8	
3,132			18·43	6·02	6·00 × 6·00	36·00	72,060	2,002		128·7	
3,007	Mixed very dry (rammed) D	Not sprinkled	18·13	6·03	6·00 × 6·00	36·00	80,580	2,238	2,225	143·9	143·0
3,008			18·20	6·02	6·00 × 6·00	36·00	83,100	2,308		148·4	
3,009			17·90	6·00	6·00 × 6·00	36·00	83,280	2,313		148·7	
3,010			18·05	6·01	6·00 × 6·00	36·00	73,470	2,041		131·2	
3,015		Sprinkled	17·72	6·02	6·00 × 6·00	36·00	63,250	1,757	2,078	113·0	133·6
3,016			18·28	6·00	6·00 × 6·00	36·00	83,460	2,318		149·1	
3,017			18·10	6·00	6·00 × 6·00	36·00	85,020	2,362		151·9	
3,018			17·72	6·00	6·00 × 6·00	36·00	67,500	1,875		120·6	

Proportions: 4 cubic ft. Thames Ballast (passing ¾″ and retained on ¼″ mesh.) 2 cubic ft. Sand.

For Tensile Strength, &c., of Cement used for above, see Report dated 9th Nov., 1910.

Water added to above quantities.
Group A
,, B
,, C
,, D

Sixty-four Concrete Cubes, made under various conditions at these Works.

TEST No.	DESCRIPTION.		WEIGHT.	DIMENSIONS.		BASE AREA.	CRUSHED.					Increase over 28 days
							Stress	Per sq. in.		Per sq. foot.		
s s	**Age 90 days.**		lbs.	Inches.		Sq. ins.	lbs.	lbs.		tons.		per cent.
2,979	Mixed fairly wet (as in practice) A	Not sprinkled	17·76	6·00	6·00 × 6·00	36·00	64,720	1,798	1,787	115·6	114·9	74·1
2,980			17·77	6·00	6·00 × 6·00	36·00	63,920	1,776		114·2		
2,981			17·78	6·00	6·00 × 6·00	36·00	64,560	1,793		115·3		
2,982			17·95	6·00	6·00 × 6·00	36·00	64,200	1,783		114·7		
2,987		Sprinkled with water every other day for first 3 weeks	17·57	6·00	6·00 × 6·00	36·00	58,190	1,616	1,789	103·9	115·5	60·6
2,988			17·64	6·00	6·00 × 6·00	36·00	62,930	1,748		112·4		
2,989			17·82	6·00	6·00 × 6·00	36·00	65,130	1,809		116·3		
2,990			17·87	6·00	6·00 × 6·00	36·00	71,410	1,984		127·6		
2,995	Mixed fairly dry (not rammed) B	Not sprinkled	18·13	6·00	6·00 × 6·00	36·00	87,410	2,428	2,440	156·1	156·9	42·0
2,996			18·08	6·00	6·00 × 6·00	36·00	85,960	2,388		153·6		
2,997			18·11	6·01	6·00 × 6·00	36·00	89,880	2,497		160·6		
2,998			18·12	6·01	6·00 × 6·00	36·00	88,180	2,449		157·5		
3,003		Sprinkled	18·18	6·01	6·00 × 6·00	36·00	90,400	2,511	2,514	161·5	161·7	50·7
3,004			18·30	6·01	6·00 × 6·00	36·00	86,950	2,415		155·3		
3,005			18·28	6·01	6·00 × 6·00	36·00	93,850	2,607		167·7		
3,006			18·25	6·01	6·00 × 6·00	36·00	90,800	2,522		162·2		
3,125	Mixed fairly dry (rammed) C	Not sprinkled	18·34	6·00	6·00 × 6·00	36·00	100,500	2,792	2,914	179·5	187·4	44·4
3,126			18·45	6·00	6·00 × 6·00	36·00	105,100	2,919		187·7		
3,127			18·52	6·00	6·00 × 6·00	36·00	106,900	2,969		190·9		
3,128			18·25	6·00	6·00 × 6·00	36·00	107,200	2,978		191·5		
3,133		Sprinkled	18·46	6·00	6·00 × 6·00	36·00	117,300	3,258	3,159	209·5	203·1	55·4
3,134			18·40	6·00	6·00 × 6·00	36·00	109,200	3,033		195·0		
3,135			18·32	6·00	6·00 × 6·00	36·00	124,400	3,456		222·2		
3,136			18·36	6·00	6·00 × 6·00	36·00	104,000	2,889		185·8		
3,011	Mixed very dry (rammed) D	Not sprinkled	18·28	6·01	6·00 × 6·00	36·00	128,000	3,556	3,311	228·7	212·9	48·9
3,012			18·00	6·01	6·00 × 6·00	36·00	119,020	3,306		212·6		
3,013			18·06	6·01	6·00 × 6·00	36·00	121,620	3,378		217·2		
3,014			17·69	6·00	6·00 × 6·00	36·00	108,150	3,004		193·2		
3,019		Sprinkled	17·82	6·00	6·00 × 6·00	36·00	110,980	3,083	3,554	198·3	228·5	71·0
3,020			17·90	6·00	6·00 × 6·00	36·00	130,050	3,612		232·3		
3,021			17·98	6·00	6·00 × 6·00	36·00	136,220	3,784		243·3		
3,022			18·10	6·00	6·00 × 6·00	36·00	134,500	3,736		240·3		

(25% passing ¼″ and retained on ⅛″ mesh, 75% passing ⅛″ mesh.) 1 cubic ft. "Ferrocrete" Cement (76·2 lbs.)

Galls.	Qts.	Pts.	
5	1	1	= (53·75 lbs.)
4	2	0	= (45·0 ,,)
4	0	0	= (40·0 ,,)
3	2	0	= (35·0 ,,)

Percentage of Voids.

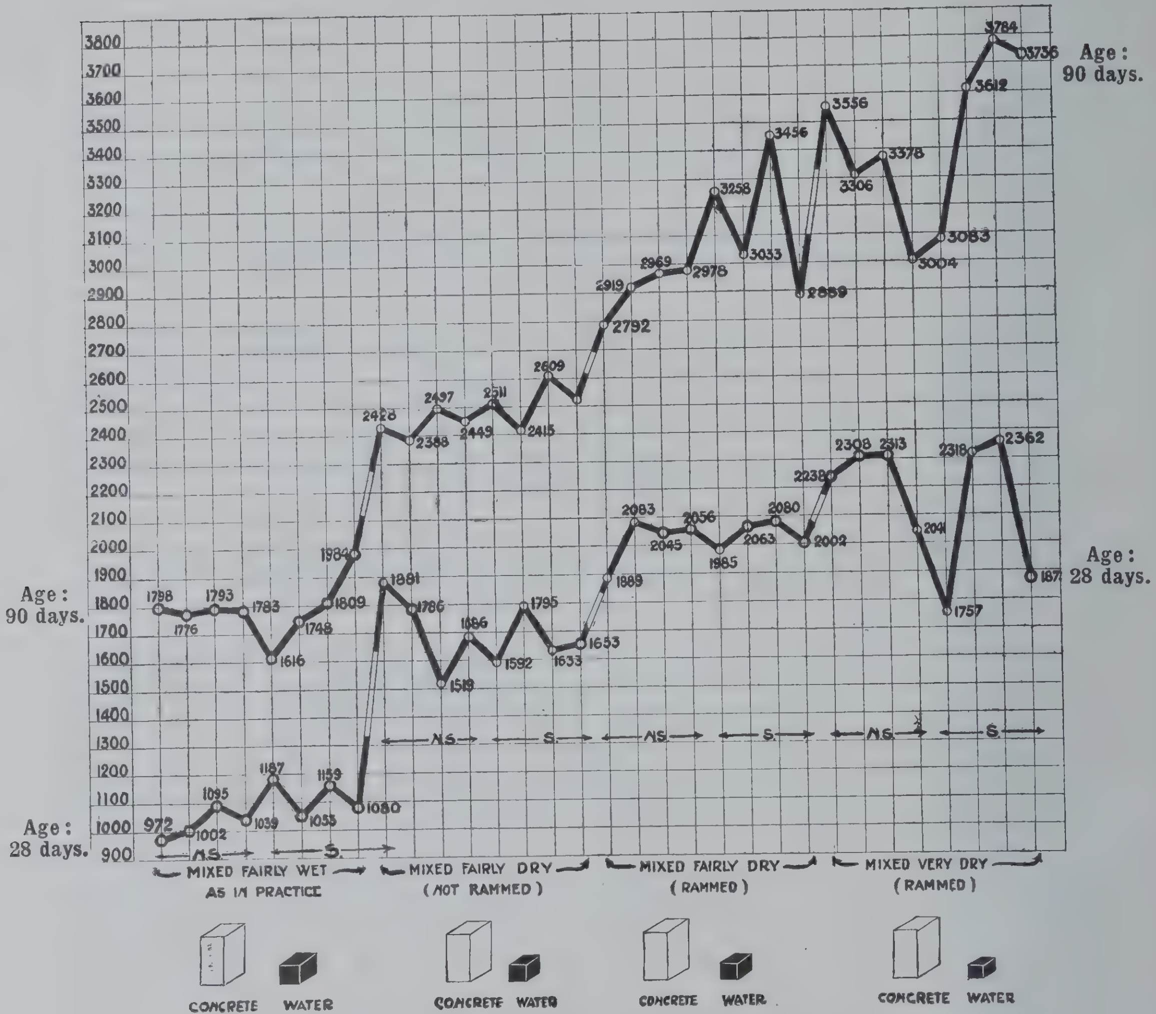
SS4780	Ballast passing ¾″ and retained on ¼″ mesh	41·3%
,, 4779	Sand ,, ¼″ ,, ,, ⅛″ ,,	40·5%
,, 4778	Sand ,, ⅛″ ,, ,,	29·1%

99, Southwark Street, London, S.E.
2nd Dec., 1910.

DAVID KIRKALDY & SON.

DIAGRAM 3.

CONCRETE. RESISTANCE TO THRUSTING IN LBS. PER SQUARE INCH.



FOR PROPORTIONS AND FURTHER PARTICULARS SEE TABLE NO. 3.

S. = SPRINKLED WITH WATER DURING SETTING.

N.S. = NOT SPRINKLED.

so that each series of specimens is tested up to at least ten years of age, a number of specimens should always be kept so that if anything should ever happen to any structure or part of same one is in a position to test the concrete, and the steel, of course, could be tested from samples obtained from the actual work.

(43) By the kind permission of Mr. Kirkaldy, I am able to give you the actual detailed results of experiments to ascertain the resistance of the thrusting stress on 64 cubes made under various conditions at his Works. (See Table 3.)

(44) You will see that there are many things to be learnt from this excellent series of tests. At 28 days the highest result obtained was an average of 2,225 lbs. per square inch, and at 90 days the highest result was 3,554 lbs. These two results can be taken as being the greatest amount of resistance that can be obtained from concrete made under the most favourable conditions, and it should be compared with the lowest results obtained, which is 1,026 lbs. per square inch in 28 days, and 1,787 lbs. per square inch in 90 days, with varying results between these two extremes, and the question arises as to which is the most probable result that would be obtained from work in actual practice, in determining this it might perhaps be desirable at the same time to inspect the diagrams showing the results of experiments on concrete taken from the actual mixing platform on several works.

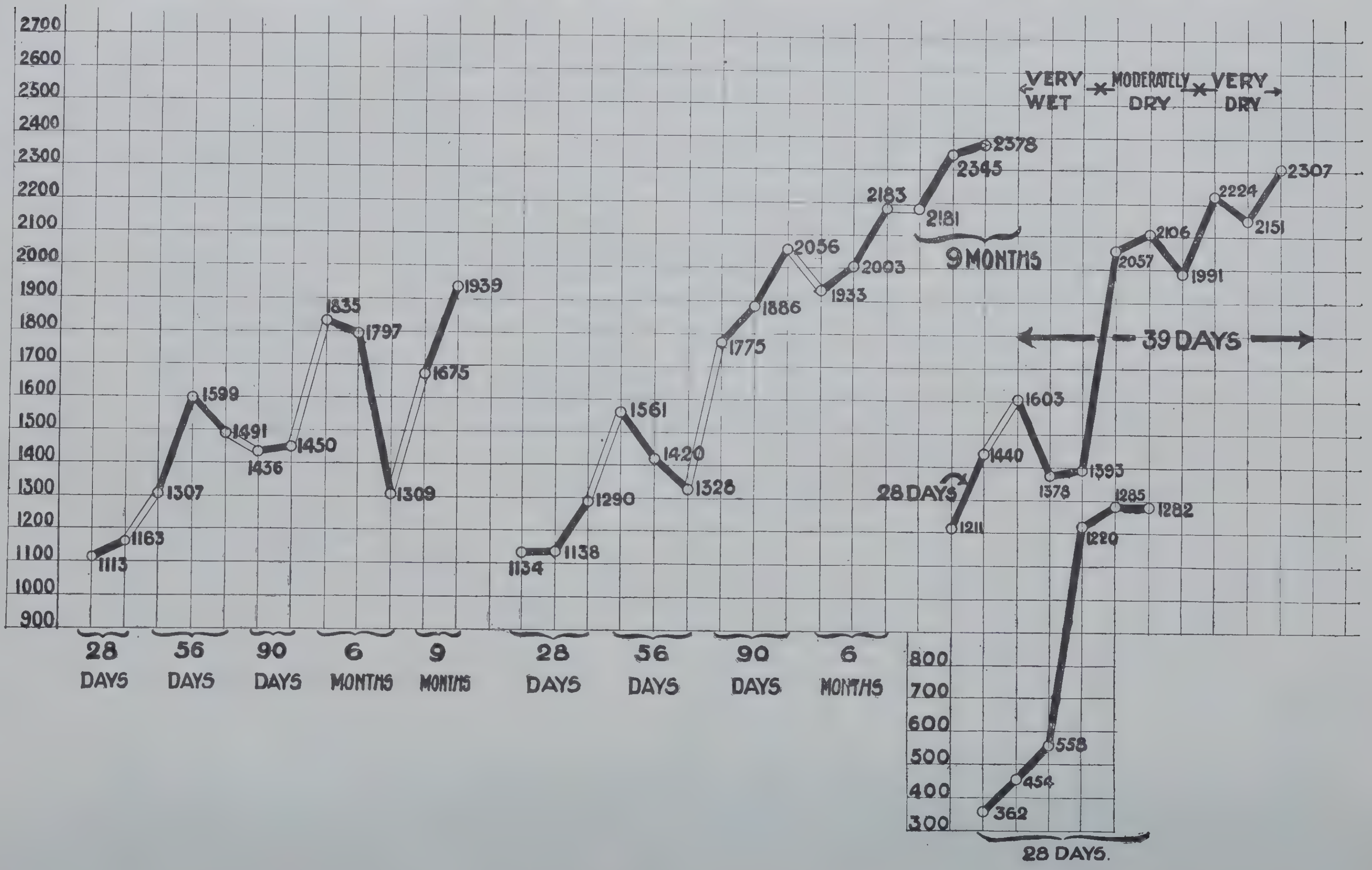
TABLE 4.

Result of Grading of Sand.

Sand.	Retained on 30 × 30	Passed 30 × 30 Retained on 50 × 50	Passed 50 × 50	TOTAL.
Sample 1.	29·0 p.c.	15·5 p.c.	55·5 p.c.	100·0
Sample 2.	48 2 p.c.	14·0 p.c.	36·8 p.c.	100·0

(45) We have heard that in certain concrete works 2,000 lbs. per square inch is invariably obtained on concrete twenty-eight days old, but I hesitate to accept this figure and such high results are possibly accounted for by the fact that the tests might be made on a machine such as one which is used in conjunction with a mercury column whereby a high result can be obtained if the load is put on too rapidly, whereas, for properly conducting a professional test, the test load should be put on at a low speed. In all tests a sudden load will give a much higher result than a gradually increasing load.

Concrete. Resistance to Thrusting in lbs. per Square Inch. Proportions: 3 Cement, 5 Sand, 10 Coarse Material.



(46) EFFECT OF "FLOUR" IN CONCRETE.—The question has often arisen as to the effect of very fine sand or so-called sand on concrete and we have had two series of tests carried out on materials of this nature.

(47) Table 4 shows the result of the grading of sand. Table 5 shows the test on cement used for the specimen pieces.

Table 6 shows the result of tests to ascertain the resistance of thrusting stress on *standard* sand and cement.

Table 7 shows the result of tests on the Briquettes containing the very fine materials.

TABLE 5.

Test on Cement used for Tensile Tests.

BRIQUETTES 1″ × 1″

Neat Cement.	3 parts STANDARD Sand to 1 part Cement.
Lbs.	Lbs.
572	196
527	238
570	206
551	192
556	191
Mean of 5 tests 555·2 lbs. per Sq. Inch.	Mean 204·6 lbs.

Age 7 days.

Residue upon sieve 50×50 0·0 upon sieve 76×76 0·0; upon sieve 180×180, 10·5 per cent. Time of initial set (25 per cent. water) 3 hours; set hard, $9\frac{1}{2}$ hours. Pats remained sound in air and cold water, also in water kept at a temperature of 115-120 degrees Fahrt. for 48 hours.

Le Chatelier Test for Soundness: Cement ærated for 24 hours, expansion 3·5mm.; after 7 days' æration, expansion 1mm.;

1.	86·56	Weight of Cement per cubic foot obtained by various methods of filling cubic measure.
2.	86·28	
3.	85·11	
4.	85·80	
5.	94·10	
6.	95·25	

TABLE 6.

Result of Experiments to Ascertain the Resistance to Thrusting Stress of Cubes of STANDARD Sand and Cement.

DESCRIPTION.	DIMENSIONS.	BASE AREA.	CRUSHED.	
			TOTAL.	Per sq. inch.
	Inches.	Sq. Ins.	Lbs.	Lbs.
From Bin No. 22. Neat Cement Age 7 Days.	3·00 3·00×3·01	9·03	41,440	4589
	3·00 3·00×3·00	9·00	43,480	4831
	3·00 3·00×3·00	9·00	42,240	4693
	3·00 3·00×3·01	9·03	41,320	4576
	3·00 3·00×3·02	9·06	41,000	4525
	Mean	9·02	41,896	4643
3 parts Standard Sand. 1 part Cement (by weight). Age 7 Days.	3·00 3·00×3·00	9·00	10,420	1158
	3·00 3·00×3·00	9·00	11,080	1231
	3·00 3·00×3·01	9·03	12,080	1338
	3·00 2·00×3·01	9·03	10,440	1156
	3·00×3·00×3·01	9·03	11,400	1262
	Mean	9·02	11,084	1229

Not sufficient quantity of material of "Sample Sands" Nos. 1 and 2 to make comparative experiments to ascertain the resistance to Thrusting Stress.

TABLE 7.

Test on Briquettes Cement & Sand Samples 1 & 2 for Tensile Strengths.

BRIQUETTES 1″ × 1″

	Lbs. per Sq. Inch.
SAND SAMPLE NO. 1.	112
	108
	102
	103
	100
Mean	105 lbs. per Sq. Inch.
SAND SAMPLE NO. 2.	Lbs. per Sq. Inch.
	178
	180
	170
	191
	168
Mean	177·4 lbs. per Sq. Inch.

Proportions. 3 Sand 1 Cement (by weight).
Age. 7 Days.

(48) It will be observed from these tests that the average strength of Briquettes with standard sand and cement gave a mean of 204·6 lbs. at 7 days, whereas the sand (Sample No. 1) gave only 105 lbs. per square inch, and sand (Sample No. 2) which contained a less amount of flour gives an average result of 177·4 lbs. per square inch.

(49) On Table 5, the extraordinarily different weights per cubic foot of cement is given. The same cement was used, but different methods of filling were adopted. It certainly confirms the necessity of most carefully considering whether the cement for all work should not be measured by weight and not by cubic measure.

(50) Another test made as shown on Table 8, shows that with standard sand we get 182·2 lbs. at 7 days and 234·6 lbs. at 28 days; whereas, with the test on "flour" sand as described on the Table, we only get 53·2 lbs. at 7 days and 104 lbs. at 28 days.

TABLE 8.

Results of Experiments to ascertain the Tensile Strength, &c., of Cement and Rock Dust, and Cement and Sand.

Twenty specimens moulded here, immersed in water and tested at the ages of 7 and 28 days.

Briquettes, sectional area 1 sq. inch.

Cement and Rock Dust.

(3 parts Rock Dust to 1 part Cement, by weight.)

Age 7 days. Test No. QQ.	lbs.	Age 28 days. Test No. QQ.	lbs.
4586	64	4591	135
4588	56	4590	100
4587	50	4593	100
4584	48	4589	97
4585	48	4592	88
Mean of 5 tests	53·2	Mean of 5 tests	104·0

Received 8th Oct.

Cement and Sand.

(3 parts standard Sand to 1 part Cement by weight.)

Age 7 days. Test No. QQ.	lbs.	Age 28 days. Test No. QQ.	lbs.
4603	194	4606	264
4599	184	4605	259
4602	183	4604	243
4600	177	4607	208
4601	173	4608	199
Mean of 5 tests	182·2	Mean of 5 tests	234·6

The Rock Dust used was that which passed through the 30×30 sieve. The Standard Sand was passed through 20×20 sieve, and retained upon 30×30 sieve.

The Tensile Strength of the Cement used, in making the above briquettes, was 480·0 lbs. per sq. inch at 7 days, and 583·0 lbs. at 28 days.

Residue upon sieve 50×50, 0·0, ; upon sieve 76×76, 0·9 per cent.; and upon sieve 180×180, 15·9 per cent.

99, Southwark Street, London, S.E. DAVID KIRKALDY & SON.
6th Nov., 1908

(51) A word with reference to the testing of the finished structure may not be out of place.

Specifications often provide for the work to be tested with 1½ times the load it has been designed to carry, a factor of safety of four is taken in the calculations to provide for inequalities of workmanship and materials, for allowance for fatigue of material under strain and for isolated accidental excess loading. Considering that with 1½ times the safe load the concrete in compression is working up to 900 lbs. per square inch; adhesion 150 lbs. per square inch; 200 lbs. in shear, and steel varying up to 22,500 lbs. per square inch in tension, the parts so tested by the application of such loads may be permanently injuriously affected.

If the materials are tested as suggested in this paper and professional supervision is given to the work, tests on the finished structure are not necessary; if it is desirable, then only the safe load should be applied and if no undue deflection takes place no further loading can serve any useful purpose.

I have confined myself to giving you this evening results of tests which have been made from works I was associated with, and can vouch for all the information placed before you.

I would like to call your attention to some of the clauses under the proposed regulations for Reinforced Concrete construction to be issued by the London County Council.

Clause 119 states that the quantity of the cement should be determined by weight and 90 lbs. should be taken to be equivalent to one cubic foot. In this connection, I think, it is obvious that it is practically impossible to allow the cement to be weighed on the works. Carelessness alone will account for very wide results in the number of pounds used in each particular batch.

Clause 122 provides for the sand to be separated from the coarse material before the materials are measured. This is the only possible way of measuring the materials, but it is often forgotten that in this method of measurement the actual total proportion of cement to the bulk of aggregate and sand is very much greater than if the sand and aggregate were mixed and the cement added in the same proportion to the mixed material.

Clause 125 wisely lays down that the following materials shall not be used:

(*a*) Coal residues, including clinkers, cinders, ashes, coke breeze, pan breeze, slag and other similar material.

(*b*) Sulphates, including plaster of Paris and other similar materials.

(*c*) Blast furnace, slag, copper clag, forge breeze, dross and other similar materials.

(*d*) Limestones, magnesian limestones, marbles and other calcium carbonates.

In Clause 132a, the following compressive resistance is given:

PROPORTION BY VOLUME.			ULTIMATE COMPRESSIVE RESISTANCE IN POUNDS PER SQUARE INCH.	
Cement.	Sand.	Coarse material.	28 days after mixing.	90 days after mixing.
1	2	4	1,800	2,400
1	1½	3	2,100	2,800
1	1	2	2,700	3,600

My own experience leads me to think that concrete on ordinary building work, mixed and rammed in the same manner as the actual work has been executed, will not give such high results as these regulations demand, and before such figures are obtained it will mean that a very much richer mixture will have to be used, which will certainly increase the cost considerably.

Clause 138 in these regulations is in my experience most undesirable and serves no useful purpose. It is found in the actual construction of the works that the bars are placed into position some considerable time before the concrete is added to same, and in opening up certain work it was found that the cement grouting coat did not properly adhere and flaked off the steel bars in small pieces, consequently there was practically no adhesion between the bar and the actual concrete. I think that any such coat of grout is as equally bad as if the bars were painted, and I am sure it has been added to these regulations from a purely theoretical point of view, without carrying out experiments to ascertain the result in the actual working conditions. If the concrete was added to the work immediately after the grout was put on and before the latter had time to dry, it might not then be so harmful, but it is absolutely impossible in practical work to apply such a coat immediately before depositing the concrete.

Clause 140 gives a District Surveyor very extensive power, but it is certainly a power in the right direction, provided he is reasonable in his requirements. I would go further however in the clause and state definitely the manner in which and by whom the test pieces should be prepared, as it is possible to obtain almost any result desired by different methods of preparing the specimens and by testing same. Probably you will notice the general trend throughout this paper is to try and suggest a means of arriving at some standard basis for all tests.

Clause 144 deals with the superimposed test load on the floor and it states definitely that such test loads shall be 1½ times the superimposed load for which the structure has been designed. I have dealt elsewhere with this point, but would again suggest that it is a highly undesirable and dangerous procedure.

The whole of these proposed regulations in parts 8, 9, 10 and 11, are with certain modifications to meet the practical difficulties, highly desirable.

The Statutory Registration of Architects.

The Society of Architects & the Royal Institute of British Architects.

THE PRESENT POSITION AND FUTURE PROGRAMME OF THE SOCIETY, AND THE POLICY OF ITS COUNCIL.

STATEMENT BY THE PRESIDENT, MR. GEORGE E. BOND, J.P.

As there exists a considerable amount of misunderstanding both in regard to the present position of the Society, and the probable future action of its Council in reference to the above and other matters, the President, MR. GEORGE E. BOND, J.P., has issued the following statement :—

THE RESULT OF THE NEGOTIATIONS.—As a result of negotiations between representatives of the Councils of the Royal Institute and of the Society, extending over fifteen months, certain proposals for the fusion of the Society with the Royal Institute and the promotion of a Registration Bill were agreed to, but on the scheme being submitted to a general meeting of the members of the Royal Institute on January 8th last, the proposals were referred back to the Council of that body for further consideration.

The members of the Society have consequently not yet been called upon to express their opinion on the above proposals by voting, but they have severely and adversely criticised them by correspondence, more particularly with regard to the question and terms of the fusion of the two bodies. The opponents of the scheme on both sides claim that too much was to be conceded for the little to be obtained in return.

THE POSITION OF THE ROYAL INSTITUTE.—The position of the Royal Institute is that it is pledged to Registration, and its Council have appointed a Committee to consider the matter in view of the situation created by the reference back to them of the proposals above mentioned.

THE POSITION OF THE SOCIETY.—The position of the Society is exactly what it was before, that is to say, it is pledged, as always, to Registration but not to any course of action therein with the Royal Institute, and the Council of the Society will not initiate further steps in regard to the fusion of the Society with the Royal Institute, though they will be prepared to favourably consider and discuss any reasonable proposition in regard to the subject, which may be submitted to them by the Council of the Royal Institute.

THE REGISTRATION QUESTION.—In regard of Registration, a new situation has arisen. The Society of Architects has been the pioneer in this movement for considerably over a quarter of a century, and when the Council of the Royal Institute adopted a Registration policy, this enabled negotiations to be opened with them with a view of promoting a joint Bill.

In the early stages of the discussion it became apparent that with regard to one of the main points of the proposed Bill, the Council of the Society, as representing an independent Architectural body, could not possibly agree with the view put forward by the representatives of the Royal Institute, and as they were equally determined not to accept ours, the question of amalgamation was suggested to us as a way out of the difficulty: for both parties recognized as all thoughtful persons must, that in the present congested state of public business in Parliament, a contentious Bill would not have the least chance of reaching a second reading; and that neither party could hope under these conditions, to pass a Bill through Parliament unless there was unity of action.

FUSION NOT ESSENTIAL TO JOINT ACTION.—As however the Council of The Society of Architects have laid down in the proposals for the fusion of the two bodies the minimum which they can recommend their members to accept, and as these proposals have been severely criticised by the members concerned, it would seem unlikely that further progress can be made in this direction, but there remains the alternative of continuing the negotiations with regard to a joint Registration Bill: and the Council are prepared and indeed desirous of continuing them, hoping thereby to establish that unity of action which is essential in that case to success.

THE QUESTION OF INDEPENDENT ACTION.—The opinion has been very freely expressed by many influential members of both bodies, that in order to secure the passage of a Bill which will protect the interests of all practising members of the profession, and not merely those belonging to one Institution, it is an essential condition that The Society of Architects shall continue its existence as a powerful independent body.

At the time the negotiations with the Royal Institute were first opened, the Council of the Society had formulated a certain course of action in regard to the introduction of the Society's Registration Bill into Parliament, and the machinery which then existed is still available, and should it eventually be found impossible to make progress in any other way, that machinery will be set in motion. In other words, the Society is prepared if necessary, to resume at any moment that active independent propaganda hitherto so successfully pursued, but which was temporarily suspended in order to enable the Council to consider another means of attaining the same end.

PRESENT AND FUTURE DEVELOPMENT IN THE SOCIETY.—The present position as between the two bodies, and the policy of the Council of the Society in regard to the Registration question having thus been made clear, attention is drawn to the fact that the work and activities of the Society in other directions are being carried on exactly as before, without reference to any matters pending between the Councils of the Society and of the Royal Institute.

Various schemes of the greatest importance to the development of the Society and its work, which have been held in abeyance during the negotiations referred to have been resumed, and are being actively prosecuted. Among these may be mentioned the institution of a Code of Ethics, the development of the Students' Section, and the introduction of graded examinations, involving the re-organization of the qualifying examination for Membership, in connection with which latter the Council are seriously considering whether or not, at an early date, admission to the Society in any class shall be restricted to those who have qualified by examination.

MEMBERSHIP IN THE SOCIETY.—Until further restrictions are imposed, it is open to any qualified Architect who can comply with the regulations and can submit evidence of eligibility of the standard required by the Council in lieu of other examination, to be nominated for membership.

Architects who are in sympathy with the proposals for Registration, will appreciate the fact that The Society of Architects is the only Architectural body which has made Registration one of its chief aims, and which is pledged to secure that end by one means or another ; and it is on this account that the Society has a claim to the support of all qualified Architects, on whose behalf it has consistently and persistently advocated and upheld the principle of Registration for so many years, in the face, very frequently, of bitter opposition and misrepresentation.

The Society is a powerful and strongly established institution, with a total Membership of nearly twelve hundred. It has its own premises and every facility and means for extending the scope of its operations and for the ultimate attainment of its principal object. It is for those who support the Society in principle to do also in person, and every eligible Architect who possesses the necessary qualifications and is in sympathy with the aims of the Society should consider it his duty, apart from any personal advantages to be derived, to give to the Society that material and practical support which can only be evinced by joining its ranks and thus still further strengthening and consolidating its position and influence.

The Society and the Royal Institute.

Mr. James Jerman, F.R.I.B.A., in his Presidential Address to the Devon and Exeter Architectural Society, says: "that during the past year a marked endeavour has been made by the Royal Institute to come to terms with The Society of Architects on the subject of recognition and so pave the way to Registration. The work has been one of great difficulty and matters have proceeded as far as the consideration of the amendment of the Royal Charter of the Institute, to enable this desirable movement to be forwarded. One hopes that the present deadlock may be got over, when the concessive spirit shown on both sides is generously regarded."

Women Architects.

Miss Annie Hall, the first woman to qualify for membership in The Society of Architects, is convinced that women can do most useful work in the profession, and as one of the pioneers she has been giving her views on the matter in the *Daily Chronicle*. Commenting on " The lady architect again," *The Builder* in a leading article says : " The lady architect, herself a perfectly rational and normal character, does not gain by the way in which her case is presented to the public. In the *Daily Chronicle* the topic was dealt with a few days ago in some chatty paragraphs which are sometimes amusing, but which one hesitates to believe can appeal to the emancipated of the sex, for here one finds, besides facts usually trite and obvious, other things which display a lamentable want of knowledge of the actual facts of life." After quoting some of the paragraphs referred to, *The Builder* expresses the view that in this comprehensive bid for patronage the lady architect does not omit the inevitable claim to intuitive genius, but adds also a monopoly of the humorous sense—surely a sign of the advancing times. But she does fail to acknowledge the weak points in all such eloquent passages that the mere male architect cannot (if he wishes) altogether avoid—that intimate knowledge of domestic convenience which the training of the lady architect in office and technical school so admirably inculcates. In spite of the general decadence of the male sex, the average architect is fortunate enough to be married, and if lack of means or opportunity prevents such a consummation, there is always an alternative which no man of experience can lightly disregard, and that is no less a personage than the lady client! If architects still resist the feminine tendency to make the home a mere agglomeration of cupboards and utensils, they have nevertheless surpassed other professions in gladly throwing open their institutions and societies to the lady architect herself. Competition grows keener and keener every year, but the pioneer will not gravely affect the stability of the profession unless she is prepared to take things seriously and face male competition on her own merits.

The Evening Standard suggests that there is a great need for women architects, and that a woman's grasp of domestic detail, if turned to proper account, should increase the beauty and convenience of a home to a degree obvious even to a male colleague less experienced in domestic matters. Moreover, though the feminine brain may be quite capable of designing a second Westminster Abbey, the demand of the day is for flats, houses, and cottages, which shall be comfortable and appropriate, and as pleasing to the eye as the desire for constructional economy will allow.

From the enquiries we frequently receive from women, regarding the procedure to be adopted in qualifying as architects, it is evident that the subject of women's sphere in architecture is one which is attracting some attention at the present time, but whether some of the exponents of the art are choosing the best means of securing the sympathy and support of the public is open to question.

Public Indifference to Architecture.

The Times, in a leading article on the new County Hall, says: The fact that the King has laid the foundation stone, combined with the great prominence of the site, will probably draw more public attention to the Council Hall than is usually given to new buildings in London, however important, Indeed, our indifference in architectural matters is very strange and often mischievous in its results. When some famous picture is in danger of being lost to the country, it is easy enough to get up a public excitement about the danger. But huge buildings arise, often on the most promising sites, with hardly a word of public criticism upon them. The ordinary Londoner does not seem to notice when a new building takes the place of an old one, unless the change affects him personally, and even then he has no æsthetic opinion about it. The natural result of this indifference or timidity is an equal indifference on the part of most public authorities to all artistic considerations. Architects are chosen for the most important buildings by mysterious processes, which certainly do not result in the survival of the fittest; and these architects, when chosen, are frequently so hampered by official interference that they have no chance of doing their best, whatever it may be. There is an obscure despotism in all such matters, which exists only because there is no public opinion to control it, and which has the worst possible results, not because it has evil intentions, but because it is ignorant and purposeless. This is the more strange in that architecture is perhaps the most alive and the most promising of all arts in England. It is more alive than in France; and yet, because authorities in France are more subject to the pressure of artistic opinion, the standard of official buildings in Paris is far higher. In England there is an almost complete estrangement between the mass of our best architects and most public and official bodies. If those bodies desired the best artistic advice they would not usually know where to seek it. To them an architect is not an artist at all, but a man who makes plans for buildings, which he must alter at the will of any official person, and who supplies as much irrelevent ornament to those plans as the authorities choose to afford. So we have an official kind of architecture, which at the same time lacks the splendour and science of the best French building and the originality of the best English. That depends for its support upon private patronage; and if any one wishes to see the best of our modern architecture he must look for it in private houses, in restaurants, in flats, in theatres, in offices—in fact anywhere rather than in those public buildings where he would expect to find it. This is the result of the lack of an organized public opinion and interest. We have better chances of beautifying our cities than we have had at any time since the death of Wren; but as a nation we throw them away with both hands.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Re Housing of the Working Classes.

Sir,—Might I take up a few lines in the *Journal* in reference to the subject of Mr. Monson's interesting paper on "The Housing of the Working Classes," which unfortunately for me I was unable to hear him read ?

It seems to me that the most difficult problem is to provide decent cottages for the country labourer, who in some districts earns 14s., 15s. or 16s. per week as a maximum.

My firm was recently commissioned to build two cottages in Oxfordshire for £300, the absolute maximum rent obtainable for these cottages being 2s. per week! Our clients, fortunately, were the trustees of a charity which owned the farm on which the cottages were to be built, and were willing to erect them at this small interest in order to enable the tenant of the farm to properly house his labourers, and the Charity Commissioners gave their consent so far as the financial part was concerned. We prepared drawings, etc., and obtained tenders to erect them at the sum named, and then the Surveyor to the Commissioners stepped in with certain requirements, to meet which, seriously increased the cost.

I do not wish now to enter into the question of whether these requirements of the Commissioners were or were not absolutely essential, but to point out the result, viz. : the cost was increased to £385 (and the work had to be carefully looked after to do it for that sum), but the rent obtainable still stood at 2s. per week.

These cottages were urgently required, there being none near this particular farm ; yet how could the ordinary farm owner, unless he were a rich man, be expected to expend £385 for an interest of £10 8s. per annum, out of which he has to provide for upkeep and repairs, etc. ?

It may be of some interest to mention that these cottages each contained living room 11 ft. 0 in. by 14 ft. 0 in., scullery 11 ft. 4 in. by 8 ft. 4½ in., one bedroom 11 ft. 0 in. by 8 ft. 6 in., another 11 ft. 0 in. by 8 ft. 0 in., and a third, child's room, 8 ft. 0 in. by 6 ft. 0 in. This last we found was required by the inhabitants of the locality, though originally we had intended to throw the space into the main bedroom. In the garden an earth closet and a shed was provided for each cottage.

We have had a somewhat similar experience in another County, but in that instance the owner of the farm was well off, and, as the cottages were urgently required, he had them designed and built, irrespective of the interest on his outlay, being content to know the farm hands were well and healthily housed; but how is the ordinary man, with no money to spare for such purposes, to provide decent accommodation for his men ?

14, John Street, Adelphi, London, W.C.
March 11th, 1912.

I am, yours faithfully,
Arthur B. Hayward.

The New Secretary of the A. A.

The Council have appointed Mr. F. R. Yerbury as Secretary to the Architectural Association in succession to the late Mr. D. G. Driver. The new Secretary was for long on the staff of the A.A. and is well qualified in this and other respects to carry on and develop the work of the Association.

Mainly about Members.

We regret to announce the death of Mr. Albert Edward Bryon, of London, at the age of 29. He was for some years in the service of H.M. Office of Works, and in 1907 joined the Students' Section of the Society and was advanced to membership last year. Mr. Bryon was a young architect of considerable promise, and his death will be greatly regretted by those who knew him.

A new library and institute was recently opened at Pengam, Mon. The building was erected at a cost of £1,600 from the designs of the architect, Mr. D. J. Thomas, of Blackwood, Mon.

A new public hall, at Earls Colne, is being erected at a cost of about £2,215 from the designs of Mr. P. M. Beaumont, A.M.INST.C.E., of Maldon. The building will be erected of red bricks, and includes a large main hall, 55 ft. by 33 ft.

Mr. H. Guicharde Todd, F.S.A. (Scot.), has removed his offices from Cheapside to 317, High Holborn, and Mr. G. H. Wenyon, of Tipton, has left England for British Columbia, and will carry on his practice at 1414, Harewood Street, Vancouver.

Mr. E. Coath Adams has been elected President of the Devon and Exeter Architectural Society, and Mr. Wm. H. May, a former President, has been elected to a seat on the Council. Mr. C. Cole having served three consecutive years was ineligible for re-election.

Raine's Foundation School, Arbour Square, E., has been erected at an outlay of £35,000. The Mercers' Company helped with the site, and the new accommodation provides for 500 scholars. The plan shows classrooms round the assembly hall. Sixteen square feet per scholar, with single desks, being allowed, the farthest pupil being within 19 ft. of the nearest window. The assembly hall is 84 ft. 6 in. by 36 ft. 6 in., giving 6 ft. per scholar. All the cloakrooms are on the ground floor. Supplementary w.c. and lavatory provision is made on each floor in wing blocks. The front entrance and administrative rooms are separated, and can be worked independently of the school. The museum, on the second floor, can be entered from either school. The front elevation is in red brickwork of broken colour, with Portland stone dressings. The plinths are of purple brick. Reinforced concrete is used for the flooring, covered with wood blocks. The cost of the building was £22,500. Mr. Herbert O. Ellis, of Fenchurch Street, is the architect.

Students' Smoking Concert.

The Second "Smoker" of the Session will be held at 28, Bedford Square, on Friday, April 19th, at 8 p.m. The Hon. Secretary, Mr. C. H. Hudson, will be glad to receive the names of any members or students who are prepared to take part in the entertainment.

Students' Quarterly Competitions.

Second Subject. Quarter ending June 24th, 1912.

The subject for the next quarterly competition will be an essay on "Colour and Ornament and their application to Buildings."

Essays must be written in the third person, on one side of the paper only, and must be accompanied by sketches illustrating the points to which the author draws attention.

The papers, which should preferably be typewritten, must be delivered at the Society's Offices, 28, Bedford Square, W.C., not later than 6 p.m. on Monday, June 24th, and must have attached thereto a plain sealed envelope containing the competitor's signature and address appended to a declaration that the essay and sketches are the candidate's unaided work.

The awards and other conditions will be as stated in the general conditions applying to these competitions as set out on page 114, *ante*.

The Society of Architects' South African Branch.

Qualifying Examination for Membership.

It is proposed to hold the next examination for South African candidates at Johannesburg, and possibly other centres, on June 25th, 26th and 27th.

Application for particulars should be made at an early date to the Local Hon. Secretary, Mr. D. Ivor Lewis, P.O. Box 667, Johannesburg.

The following have been appointed as the Board of Examiners in South Africa: Section I.: Architecture (*a*) Planning and Design, E. J. Wellman; (*b*) History, D. Ivor Lewis. Section II.: Building Construction (*a*) Construction, F. J. Beardwood; (*b*) Materials, G. W. Nicolay. Section III.: Practice (*a*) Contracts, etc., S. C. Dowsett; (*b*) Quantities, etc., M. J. Harris. Section IV.: Sanitation, E. H. Waugh, A.R.I.B.A.

Unsatisfactory Competitions.

The attention of Members of the Society is called to the unsatisfactory nature of the conditions of the Architectural Competition in connection with the Oakwood Avenue Schools, Warrington. It is requested that Members will refrain from taking any part in this Competition.

Ordinary Meeting.

The Sixth Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, April 11th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Discussion on "The Principles of Architectural Practice." To be opened by Mr. C. McArthur Butler, F.C.I.S., Secretary of the Society.

Light refreshments will be served after the meeting.
Smoking permitted.

Twenty-eighth Annual Dinner.

Presentation to the President.

The twenty-eighth Annual Dinner of The Society of Architects will be held in the King's Hall, Holborn Restaurant, on Friday, April 26th, 1912, at 6.30 for 7 p.m. Tickets (members and visitors, 7/6 each, exclusive of wine) may be obtained from the Secretary.

Among those who have accepted invitations are representatives of both Houses of Parliament, The London County Council, the Royal Institute of British Architects, the Surveyors' Institution, the Royal Sanitary Institute, the Architectural Association, the Builders' Institute, the City Companies, and other professional and public bodies.

During the evening, the gold medal of the Society will be presented to Mr. Geo. E. Bond, J.P., President, in recognition of his long and valuable services to the Society.

THE

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OF

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

The Society and the R.I.B.A.

The circular which has been issued by the President of The Society of Architects to its members, and we presume to a good many architects outside its ranks (for it includes a paragraph inviting all those in favour of Registration to join), tends to confirm our opinion, says the *Builders' Journal*, that the scheme of amalgamation with the Institute is not likely to be renewed ; there is evidently no expectation of it ; and the Society seems desirous to return to the *status quo*, as the only Society which has made Registration its principal aim. The insinuation that too little was promised to the Society in return for what it was to concede is rather absurd. The concessions which the Institute Council were prepared to make to the Society in case of amalgamation were, in regard to some points, almost preposterous, considering the relative position and history of the two bodies, and were evidently so regarded by the general meeting to which they were referred. The policy of the Society, as implied in the last paragraph of its President's circular, seems to be rather in the nature of telling all those architects who are in favour of Registration that " Codlin's the friend, not Short " ; that if they really desire Registration, let them at once join the Society which has always made Registration its main object. The situation becomes rather humorous.

Amalgamation the Best Policy.

It is best to say little with regard to the fair and lucid statement of the President of The Society of Architects, till the alternatives he indicates have been considered and discussed by the members of the Society. Briefly, says the *Building News*, we still think amalgamation the best policy, fully conceding that no one need be surprised that many members of the Society evidently do not think so, after recent events at the Institute. A joint Registration Bill, supported by the two independent Societies, may be practicable, but we doubt it. As also the prospects of passing a Bill solely in response to further independent propaganda by the Society. That when the period for the reception of Licentiates by the Institute has expired, a renewed and considerable accession to the membership ot the Society may follow is quite probable. The Society's single qualification for membership may very possibly have its attractions for some who chafe at what they consider the limitations of the Associates at the Institute. Of the ability of the Society to maintain its activities there can be no doubt whatever.

AN EXAMPLE FROM AMERICA.

The consolidation of The Society of Architects and the Royal Institute of British Architects which has been for several years in contemplation seems to be coming closer, only charter limitations and a workable basis for its fusion being deterent factors. It is only singular, says *Construction*, that this amalgamation has not been effected long ago. It only took about six years for architects in the United States to realize that two national societies were inoperative, or at least superfluous, and each interfered with the growth and work of the other. When the Western Association of Architects was formed at Chicago in 1884 (called together for organization on his own initiative by the present Editor of *Construction*) the American Institute of Architects was small numerically and proportionately inactive. The new society grew rapidly in membership and was active in its work of regulating professional practice. This activity soon encroached upon the prerogatives of the elder Association, and also a double membership was found necessary in many cases. What was done in stimulating the Institute by competition has long ago disappeared. Now consolidation upon an equitable basis of membership is the logical result. Canada has solved the problem in much the same way in its federation of provincial Associations.

THE "ROYAL" INSTITUTE AND THE "PLAIN" SOCIETY.

There is only one "Royal" architectural body, and that is the Royal Institute of British Architects. Yet the *Times* refers to Mr. G. E. Bond as President of the Royal Society of Architects. On many occasions we have noticed in the public Press, says the *British Architect*, a sort of assumption that The Society of Architects represented the profession. We are not aware that its twelve hundred members represent even a small proportion of the best men in the profession, and we do not think it is at all unfair to point this out.* The present policy of the Royal Institute of British Architects will, in the opinion of many of its well-wishers, tend to still further alienate those who represent the highest quality in our modern architecture, and who desire to be something more than surveyors or policemen in building affairs. The Society of Architects has had Registration as one of its chief aims, and has earned the gratitude of all those who believe in that. But now that the "Royal" Institute and the plain Society are both agreed to Registrate, there is, perhaps, not much to choose between them, for those who look upon Registration as inimical to the best interests of architecture.

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*[The attitude of our contemporary reminds us of the action of a prominent member of the Royal Institute, who some years ago, on seeing a newspaper report of the Society's Annual Dinner, took the trouble to write to that paper expressing the hope that the visitors would not confuse the Society with the R.I.B.A.

If, as our contemporary suggests, the Society looms more largely in the public view than does the R.I.B.A., it is not the fault of these kindly critics, who with the best intentions, do their utmost to prevent any misapprehension.—ED.]

SEPARATION A SOURCE OF WEAKNESS.

The scheme of amalgamation projected between the Royal Institute of British Architects and The Society of Architects has now apparently definitely fallen through, and is not likely to be revived at least for a considerable time. The negotiations between the two Councils, says *The Irish Builder*, had seemingly reached a stage of agreement, and nearly all that remained to be done was to have the provisional agreement ratified by the general body of the members. The substance of the agreement became the subject of several "private and confidential" circulars, the net result being that the proposals were referred back to Council. The present position is set forth in a recent statement by the President of The Society of Architects. The proposals have been so severely criticised that the scheme may be regarded as abandoned. The Institute, however, is, as a result of the negotiations, pledged to the principle of registration, and the Society is prepared to co-operate in promoting any Bill, meanwhile continuing its own existence as an independent professional body, and seeking to develop its work without any reference to matters pending between the two bodies, and it is in contemplation restricting future membership to those who qualify by examination. The Society now numbers twelve hundred members and has a good deal of power and influence, especially in the English provinces, so it is a professional force to be very seriously reckoned with. Considering all the circumstances of the case, it is greatly to be regretted that it was not found possible for the Institute and the Society to arrange the terms of an amalgamation of the two bodies, and a concentration of effort. The existence of two separate professional bodies for almost the same purpose is a source of weakness, not strength, to the common interests, though it is freely to be recognised that where there is difference on elements of propaganda the existence of separate bodies is inevitable.

We regret that owing to pressure on our space, several Reviews and Articles have had to be held over until the next issue.—ED.

Proceedings.

THE Sixth Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, April 11th, 1912, at 8 p.m.

Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, having taken the Chair, in the unavoidable absence of the President, it was resolved that the minutes of the previous Meeting, having been published in the Journal, be taken as read. The minutes were then confirmed and signed.

Twenty nominations for membership and six for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Browne. Fred Anstead,	10, Trinity Road, Springfield, Chelmsford.
Foley. Thomson,	North Bar Street, Beverley, Yorks.
Valentin. Gerald Seymour,	18, Charing Cross Road, W.C.

As Students :—

Bell. Charles,	45, Mountjoy Square, Dublin.
Clarke. Percivale John,	34, Castle Street, Liverpool.
Coupland. William Vernon,	311, Upper Richmond Road, East Sheen.
Cropper. John William,	18, Dale Street, Runcorn.
Dommett. W. W.,	Phœnix Hall, Frome.
Hoile. Gerald John Harwood,	24, Egliston Road, Putney, S.W.
McGuinness. Edgar Francis,	98, Elm Vale, Fairfield, Liverpool.
Moore. Alfred Ethelbert,	101, Telephone Road, Southsea.
Reid. Gilbert Alan Hill,	Craigmore, Wickham Avenue, Bexhill-on-Sea.
Timlin. William Mitcheson,	28, Warren Street, De Beers, Kimberley.

Mr. C. McArthur Butler, F.C.I.S., Secretary of the Society, then opened a discussion on " Some Principles of Professional Practice and a Code of Ethics."

Mr. Percy B. Tubbs, F.R.I.B.A. (Vice-President), said Mr. Butler had given them a most interesting and instructive paper, and he hoped it would lead to a good discussion.

Mr. R. G. Lovell, A.R.I.B.A. (Member of Council), in moving a vote of thanks to the Secretary, congratulated him on the result of his efforts in calling attention to the matter before them. Those who had an opportunity of working with Mr. Butler knew how he applied himself to everything he took in hand, and in the proposals before them they had a well thought out scheme of what it was possible to do here as well as an analysis of what had already been done elsewhere. The idea of forming a Board of Professional Control was a very excellent one, provided it could be got together promptly. If, with the object of gaining greater unity, they were to wait for the co-operation of the Royal Institute, and the other Societies mentioned, he could easily foresee that the matter would drag on for as long a time as the negotiations with regard to Registration. The Society prided itself upon the fact that it was the forerunner of Registration, and he saw no reason why they should not adopt the same attitude with regard to the Code of Ethics, and he thought the Council would be acting in the best interests of the profession generally by pushing the matter forward immediately. As a Society, it was their duty to go ahead in a matter of that kind and leave for future development the question of professional unity. In putting forward a Code of Ethics for the profession, they should first of all consider their own Members, who would certainly look for a code capable of practical application. The interesting letter which they had heard read from Nottingham, touched the spot accurately. After all was said and done, they were out for a living, and although they tried to be as modest as they could, those who were doing good work did not care to hide their light under a bushel. He could not see any difference between putting the architect's name on a board during erection and having it engraved on a corner-stone of a building on completion, and he would urge that a very comprehensive view of this question should be taken when the matter came up for consideration.

Mr. A. O. Collard, F.R.I.B.A., in seconding the vote of thanks, said the subject appealed to him as a lecturer at the A.A. School for something like fifteen years on professional practice in succession to Mr. Edwin T. Hall. He had listened with keen enjoyment to Mr. Butler's paper, and thought it would come as a surprise—possibly a painful surprise—to many architects, that any such suggestion as a body to control professional practice and to institute a code of ethics was necessary or desirable. Many of them he assumed managed to get along in the profession without treading on other people's corns, and without committing any professional enormities, possibly for want of courage or opportunity, but more likely by reason of moral rectitude, of which architects do not boast, but for which the profession may certainly be credited. He did not suppose Mr. Butler would have broached the matter at the instigation of his Council, were he not in possession of some facts which showed him the necessity of a code of ethics. In most cases where there was some great evil to be cured and remedies were suggested, it was usual to state what those evils were. It would be a very delicate matter, but he would like to receive some indication of the extent of the misdemeanours which actually were known to happen and which had occurred in the past. He thought, the offences, whatever they were, should be tabulated and classified, and it had often occurred to him that it would be a warning to any possible backsliders if the Institute and the Society were to give an outline of those cases of unprofessional conduct which came before them. He thought Mr. Butler's suggestion might be carried out so far as requesting the different Societies to appoint Delegates to consider whether a Board of Professional Control was really desirable, and it would be absolutely necessary to decide the matter one way or another in the minds of those gentlemen by informing them definitely of the nature of the things which had happened. There were two broad divisions of misdemeanour ; that against a brother professional, and even worse conduct against the public. Regarding the latter, there was the Common Law to deal with such matters, and he did not know whether Mr. Butler suggested that the Common Law should be set in action against offenders by the proposed Board, or whether the latter was merely to control the action of members of the profession in connection with their own brethren. He wondered whether the architectural profession was on all fours with the two great professions of Law and Medicine. He agreed that public attention was sometimes drawn to cases in which members of those professions were seriously dealt with, but he thought,that in nearly every case it was for offences against the public, so that he did not know whether architects could base their reason for wishing for such a controlling body, on the professions of Law and Medicine. He wondered whether the draft Registration Bill, for which The Society of Architects was so famous, and which had proved to many minds so highly desirable, contained any reference to such a Board of Control and Code of Ethics. The author had referred to a code of ethics which was apparently in force for Civil Engineers, and perhaps he could quote from it, to show to what extent that code would correspond to one desirable from the architect's standpoint. He did not understand the reference to the possibility of such a code limiting and hampering members of their profession. It was interesting to note that in Canada, architects were compelled to belong to some professional body, and that they had a code of ethics which, apparently, was administered under an Act of Parliament. One could imagine that in a new country, rapidly growing, there might be some members of the profession who would not find sufficient work of precisely an architectural character, and might, therefore, become involved in other work to the disadvantage, perhaps, of the profession generally, and it was very possible that it was from the newness of the country that the necessity for regulations arose. Mention had been made of a schedule of the principles of practice and a code of ethics. Was it suggested that there should be two distinct schedules ? Was not a schedule of the principles of practice the same thing as a code of ethics ? The reference to the standard of architectural etiquette as it existed in the minds of the public caused him to wonder whether it often happened that architects were invited to accept work on inadequate terms. If it was so, it was quite outside his knowledge. He was not sure that it was not more distinguished to be excluded from those titular honours to which reference had been made. An architect was usually so absorbed in his work that he made no effort to achieve greatness in the form of a Knighthood, and by the time an important building was completed the architect had often experienced so much trouble with his clients in large and important works in order to achieve his desires in producing a fine building, and there had been so much friction from time to time, that when the question of honours arose the architect was neglected. There was always someone who was in touch with the press and the "powers that be," whereas, the architect seldom if ever was, and he did not think that architects were altogether to be pitied for not gaining more public distinctions. Mr. Butler had quoted some words from the American Institute, which were so brief and accurate and so admirably set out, that they would occur naturally to anyone considering what the functions of an architect really are. It was suggested among other main principles that arrangements should be made for supplying the client with a duplicate set of drawings, etc. The client ought to pay for these, as before the end of a job so many variations had usually to be made from the original design as to necessitate a fresh set of drawings, and if the client was told beforehand what it would involve it would be found that most of them would agree without demur. With regard to specific charges of architects, he noticed that it was suggested that a minimum charge should be made. He thought with Mr. Butler that it was a very doubtful advantage to have any fixed charge whatever, and that it would be better to leave it open so that a man could charge whatever he thought himself worth. There should be nothing to prevent a man charging 10% if he thought he could get it, as they were well aware that in certain special work a man might have trained himself so thoroughly that the value of his work would be worth two or three times as much as the ordinary scale gave him. It was rather severe on young architects to suggest that they must not compete with regard to fees or undercut to secure work. He knew that some of the public thought they had a perfect right to offer a young architect less than they would an older man, although he might be the more skilful designer, and he did not see how that could be met. It seemed a little hard that young architects should not be allowed to work at a lower figure, bearing in mind the fact that many of them were able to work at home, and so avoid the heavy charges which some architects had to bear before they made a penny profit. Some hard and fast line should be drawn to define what were and what were not honorary services. It sometimes happened that an architect gave his services gratuitously, but after his expenses had been paid there was really very little difference. A man should not be able to obtain work on apparently honorary terms, depriving some other man of the work, and yet reap some benefit from it. He noticed that expert services should command payment proportionate to the responsibility and difficulty involved, but who was to be the judge of that value and responsibility? Naturally, they themselves knew what it was worth, but was it suggested that architects should be the judges of their own value. That was the point upon which the Courts came into conflict with them; and was also the reason why the Courts sometimes ignored the Institute's scale of charges. He did not quite understand what was meant by experts naming prices in competition with each other; did it mean that architects should not tender in regard to their fees? A good many points were introduced which scarcely referred to a code of ethics, and were the ordinary things which one knew about. For instance, the paper mentioned that intelligent initiative on the part of craftsmen and other workmen should be recognized and encouraged. They were all only too pleased to get into touch with the craftsman, it was an education in itself to the young architect, and a charming part of the work for older men. There was one difficulty, however, especially on big jobs, in the shape of the foreman, who hated to see the architect instruct one of the craftsmen, and whenever possible prevented it. Most of them, however, had sufficiently subdued the foreman to keep in touch with the craftsman. With reference to the building trades and architects not engaging in any work unless as owner, what view were they to take of the peculiar scheme connected with Gidea Park? The promotors, no doubt, were imbued with a desire to benefit the younger members of the profession, and so far they ought to be very grateful to them, but at the same time it brought about a state of affairs at the present time which most of them deplored. Many young architects with very little money had become involved in speculation with one or two houses, and were associated with builders in a peculiarly close fashion which could not but tend towards lowering the standard of professional life. That was his own opinion, and he thought that if it were possible for the suggested Board of Control to put a stop to schemes such as that it would be doing a very great work. They must acknowledge, that in all probability the promotors of the Gidea Park scheme had no such injury to the profession in their minds, they must give them the credit of wishing to do good both to themselves and to young architects, but he doubted if the same gentlemen would indulge in that sort of scheme again. With regard to advertising it was a very vexed question as to what was advertising and what was not. He was sketching only recently in an old part of London, and upon an adjacent site was a huge board with the name of a well-known architect upon it. He had no personal feeling in the matter, but he wondered whether that sort of thing would be considered advertising, or whether it would be regarded as an announcement on behalf of the client that the site was available. The whole question bristled with difficulties. Some might say that if one sent a beautiful design to the Black and White Room of the Academy, with one's name written large upon it, such a course would be advertising, others might say it was not, and he thought their Nottingham friend had a good deal on his side in making the remarks that he did. Although, he had never done either himself, he could not see the difference between putting one's name on a board and putting it on the building after completion. He thought if the architect were to put the design on the board as well as his name it might help matters, because they could then see the beauty or the wretchedness of the building as the case might be side by side with the name of the architect who was responsible for it. When they attached initials after their names it was always considered legitimate in regard to professional matters, and he asked how the matter would be regarded when they were used outside the profession, say in social matters. Would it be regarded as derogatory ? If one belonged to a distinguished Society, the renown of that Society would be spread by the use of its particular initials he thought. They all must deprecate the fact that sometimes anonymous communications are made to the Press ; he did not think that many architects took advantage of the columns of the Press for abusing other architects, but he supposed that architect-editors would still be allowed to write anonymously, or was it suggested they should be stopped ? He was not sure whether it would be wise for a code of ethics to include a reference to architects taking an active interest in the proceedings of their particular Society, because if every member turned up at their meetings they would have to hold subsidiary meetings all over the building. Mr. Butler had said that "even under his client's instructions" an architect should not "engage in or encourage any practice contrary to law or hostile to the public interest, ... as he is not obliged to accept a given piece of work." He, the speaker, was not so sure about that. The necessity to earn a living was the demon which drove most of them and he could easily believe that under certain circumstances a man might be driven to do it. Referring again to the Scale of Charges, none that he had ever seen formulated had been satisfactory, and if anyone ever could suggest a really satisfactory scale he would achieve renown in the profession. He learnt that in Canada, "membership in Local Associations of Architects is compulsory by law on those who desire to use the title of Architect." He did not think many of them cared much about what they were called, provided they could get the work, and he could not see that whatever a man might style himself it would prevent him from doing architectural work. If they had a law limiting the practice of architecture to those who had qualified themselves by the customary methods it might prevent the genius arising. Take for instance the Surgical profession ; they were all aware of a great bonesetter, an absolute genius in the art of setting a broken limb and quickly doing it without injury and without any surgical qualification, yet the man was a born genius. Was that sort of genius to be cramped and prevented from rising ?

MR. W. H. SETH SMITH, F.R.I.B.A., very heartily supported the vote of thanks to Mr. McArthur Butler. He said they had met to consider their moral obligation not only as individuals but in their corporate capacity as a class of public servants, and this not merely from the point of view of expediency or custom, but, as he understood the author of the paper to imply, from the loftier standpoint of character as formed on the universally acknowledged, but little obeyed axiom of doing to other men as we would they should do to us. This principle might be interpreted thus :—We do not desire to benefit ourselves at the expense of the interests and rights of others, whether clients or builders, *e.g.*, we will not use our corporate powers (statutory or otherwise) to restrict the freedom of any man to employ any amateur instead of one of our profession if they prefer to do so. He did not know of any greater want in the architectural profession than a well-written manly book on this subject, approved by the Councils of the various Societies, which could be put into the hands of every student as a text-book on this vital question. He claimed for the British professional unions (as distinguished from trades unions), that the vastly improved public esteem and confidence or *status* they enjoyed, is due to their having, in the past, laid down and pursued a policy based, broadly speaking, on the following lines :—

(1) They have endeavoured not to limit the freedom of individual members beyond the necessary protection of the equal rights of his fellow members.

(2) They have never attempted to force employers to remunerate their services at a fixed or unreasonable rate. The cynic might reply that they have not been strong and united enough, but the fact that fair payment has been forthcoming in spite of this corporate disability is proof of their sweet reasonableness !

(3) No one was granted membership whose training and skill was below the standard the Society set up, and this educational policy was diligently organized and improved.

(4) A standard of moral etiquette was demanded. No commission was to be accepted from third parties. Members were expected never to depreciate the qualification of their colleagues, or to tout for employment where others of their calling were retained, etc., etc.

(5) No limitation of the numbers of members or of their hours or output of their work was ever attempted. It was realized that the man of exceptional talent and endurance was entitled to translate his superior powers into proportional wealth. Or that the man with heavy domestic responsibility to burn the midnight oil.

(6) No inducement to join the Society was offered other than the advantage that knowledge gives and the fact that corporate action in resisting injustice was more powerful than individual effort.

(7) The question of remuneration was the last point dealt with, for the reason that to ensure the confidence of employers, and the consequent increase and permanence of employment, freedom of contract was necessary, and the public must first be convinced that it served their interests best to employ those who had strenuously fitted themselves to be experts, and whose claim to the profession was acknowledged by their own class—their rivals.

It was assumed, and he thought justly, that clients were willing to pay reasonable fees if the advantages were clearly commensurate. The policy was in short :—

(*a*) To benefit the public by giving the very best of services.

(*b*) To benefit their members by fellowship and by due preparation for professional duty, and thus enable them to reap the confidence, work and pay which invariably result from such a policy.

(*c*) By organized resistance to frustrate attempts on the part of individuals, corporations, or of the legislature to impose unfair or unjust conditions on their members. Should such moral or legal resistance be abortive, the obvious and final resort was the corporate withdrawal of service. This weapon the medical profession had been obliged for the first time (this winter) to threaten to use, and architects though not so immediately affected by democratic employment and democratic legislation, have had to adopt in a more limited degree by their recent agreement not to enter competitions under conditions unfair to their members.

It is abundantly clear, therefore, that the confidence they had won has been much more due to an *ethical* policy rather than by one of expediency, and in discussing the question he hoped their past experience would encourage them to continue on these general lines while seeking to elucidate, emphasize and enforce them. This, he gathered, was Mr. Butler's object. His definition of an architect's functions and responsibilities was admirable, and his account of the ethical codes in connection with architectural Societies in the Colonies, America and France were very interesting. One would like to see them, whether in existence or in draft, printed by The Society of Architects, as a basis for further consideration and discussion before formulating and systematizing one for Great Britain. The author was surely not right in stating that of the great professions, Architecture was the only one not regulated by Act of Parliament. He did not think Engineering or Surveying were so regulated. Mr. Butler's suggestion that the R.I.B.A. Code as presented in the Kalendar was very meagre and insufficient, might, he thought, be admitted. Convinced and confirmed Registrationist as he was, he was not so sure that any Registration Act which they might, and he believed would obtain before long, would enable them to make more public, or to enforce, such a code of morals as was suggested. It would be directed to the machinery of training and directory-making. The real value that such a code possessed must always remain a matter of *esprit de corps*, though its existence as an expression of corporate character would go a long way to influence Parliament to favour legislation having for its object the protection of the community by bodies animated by such unimpeachable moral principles. The great value of Statutory Registration would be, as Mr. McArthur Butler premises, the bringing of the at present detached architect under a commonly accepted code of architectural etiquette, but legislation directly or indirectly compelling any man to join a professional body would be a gross breach of the liberty of the subject and should never be *suggested* in applying for a Registration Act.. As Benjamin Kidd says, "Every party in the State, nobles, middle classes and middlemen has endeavoured in its time to identify the State with its own interests. The quarrel of Society with each of them in turn in the struggles of history has been that they have all endeavoured, when they held the State in their power, to exact from the community more than they were entitled to for services rendered in terms of social utility. To hold the community up for the most they can extract from it." Let them see to it that no tincture of this class selfishness laid them open to future censure. As to Mr. Butler's suggested creation of a Central Board of Professional Practice, he should deprecate any additions to the existing organizations, such as the R.I.B.A., which, as the central, oldest, largest and most influential body, should lead in all such matters. They needed to strengthen and co-ordinate such organizations rather than to multiply them, but perhaps such a Board might with great advantage be established by the R.I.B.A., by the strengthening of its practice committee and by including representatives of other recognized architectural bodies. Any Court of Appeal or Advice, however, should be the R.I.B.A. Council, which would undoubtedly be in a better position than any new body to bring moral pressure to bear on private clients or public bodies, and, as Mr. Butler added, it would be difficult for any detached architect to avoid having occasionally to appeal to or to ignore the regulations or decisions of such a board of professional etiquette. He heartily endorsed the author's advice that it was a time to prepare such a code to be approved by the various Societies, the breach of which would be generally understood to constitute unprofessional conduct, and he was glad to hear that already considerable interest was being taken by them in this suggestion. The R.I.B.A. had of late done great service for the entire profession in that direction in connection with competitions and other matters. On the vexed question of a scale of charges, he was averse to a rigid scale, at any rate before they had obtained a Registration Act, but he believed that an optional schedule, recognized and approved by all societies of standing as representing a minimum charge was essential. The present scale issued by the R.I.B.A. was a poor business, but he believed it was at the present time undergoing an exhaustive revision by a strong committee, and he hoped the result would be reasonable and elastic, and that it would, if possible, recognize the difference between experience and inexperience, eminence and mediocrity. Although the R.I.B.A.'s past educational policy and the "newer responsibilities" of architects went far to justify a better remuneration than that now current, he felt sure that until Registration had educated the public to realize how high their standard of compulsory training was, the public would not be prepared to listen to a proposal of a higher minimum schedule, but they were justified in hoping that a well-framed and carefully graded scale of charges would, within a measurable time, not only be reasonable on their part, but acceptable also to the public. Mr. McArthur Butler had made many useful suggestions at the end of his able paper as to the points to be included in the suggested code of ethics, which were worthy of careful consideration.

Mr. Arthur J. Martin (President of the Institute of Sanitary Engineers), said, although he was not an architect, he was sufficiently in touch with the architectural profession to be interested in the matter. He thought he could take it that the interests of their two professions were identical. His opinion was the somewhat unconventional one that they should not lay too much stress upon the interests of their respective professions. After all they both existed for the service of the public, and a code of ethics could only be justified in so far as it protected the interests of the public. That was not merely an academic statement, but one of practical importance, because the enforcement of any code of rules depended to a great extent upon the co-operation of the client, whether private or public. It was of no use for them to make rules for instance as to soliciting work, or to lay down scales of fees, if the client as well as the professional man did not loyally abide by them. If it were recognized that the Society of Architects were acting in the interests of the public as well as in their own in drawing up professional rules, it would be found that the public would co-operate with them. It should be recognized also that members of their professions were exposed to very great temptations, and it was the duty of clients not unnecessarily to add to those temptations. A professional man, for instance, working on commission was under some temptation to inflate the cost of the work in order to increase his own remuneration. He was also in a position to receive from contractors, if he chose to do so, commissions in connection with the use of certain materials, and it was very important that a client should thoroughly realize that, by conniving with a professional man in any breach of the rules to the detriment of the profession, he was taking part in conduct which would almost certainly react upon himself. If he knowingly accepted as his adviser one who acted contrary to professional ethics, he had only himself to thank if he was robbed by the man he so employed. In any code of rules he thought a very sharp line should be drawn between conduct which was actually dishonourable and dishonest, and that which was merely unprofessional. In his opinion, there was a very great distinction between the enormity of those two classes of conduct. Objection had been raised to a code of rules that they were difficult to enforce. There were of course very great difficulties, but in regard to some points of professional conduct, he did not think that mattered very much, because the value of rules of conduct lay not so much in the hard and fast line which they drew as in the fact that they defined for the information of all concerned what should be the practice of the profession. For instance, with regard to a scale of fees, he did not think it was practicable to enforce a scale; it would be a mistake to treat it as a maximum, and it would not be fair to the young man to enforce it as a minimum. It was said that if a scale were not rigidly enforced it would be useless, but it would be of very great use for a professional man to be able to say that the recognized scale of charges for such and such work was so much, and that a man was not justified in accepting anything less unless he was a young man. Soon after he, the speaker, started in independent practice, he lost an important piece of work simply because he would not undertake it for less than the recognized fee. With regard to the solicitation of work, the author had stated that a professional man should not offer his services where another architect had been called in, but he did not gather from the paper that any objection was raised to a man's soliciting work under other circumstances which were not referred to. The great question appeared to him to be that no person should be at liberty to represent himself as an architect or engineer without possessing the necessary qualifications for the title. Personally, he could not see any reason whatever why an incompetent man should be at liberty to practice in either of these professions any more than as a solicitor, medical man, or dentist. In their professions, just as much as those he had mentioned, the incompetent man was a danger to the life and health of a large number of people. It was not a matter for the professions to determine, but one which the general public had a right to demand. What the qualification should be was another matter, whether it should be limited to those who had undergone a recognized term of pupilage, or what not. The guiding principle should be, not that the bulk of the work should be restricted to a limited number of hands, but that that minimum of professional qualification should be enforced which was absolutely necessary in the interests of the public.

MR. A. S. E. ACKERMANN, B.SC., A.M.INST.C.E., said he thought more attention might be given to the professions of law and medicine, from whose experience they might learn a very great deal. Some years ago he had had occasion to make inquiries of the British Medical Association in regard to medical etiquette, and was astonished to find how deeply they had gone into what was usually the unwritten law, but which in fact was in many cases to be found in full detail in print. Recently a code of ethics in connection with medical consultations had been published giving details even so far as to the order in which medical men should enter the patient's room. Such rules did not reduce the amount of illness, nor did strict etiquette diminish the amount of litigation, so that the quantity of professional work was not reduced, but the status of the profession was undoubtedly improved. Hence they often heard of a man reading for the law simply for the social status it gave him, but, whoever heard of anyone reading architecture in order to gain a social standing. A vast amount of work done by the British Medical

Association had nothing to do with Registration, but was purely and simply moral persuasion, and, although their membership was but two-thirds of the whole medical profession, yet they were in such a strong position that if two practitioners who were not members of the Association had a difference which in the ordinary course of events would lead to the Law Courts, they would frequently voluntarily go to the Association for the settlement of their dispute. Solicitors were tied down to certain maximum charges, and their interests were otherwise properly looked after, but they were not bound to charge the maximum fees allowed by law. He was in entire sympathy with Mr. Butler when he said that architects should not directly or indirectly engage in any of the building trades.

Mr. A. Alban H. Scott, m.r.san.inst. (Member of Council), said that most of the discussion had turned on the question of architects' fees, which he thought a great pity, because an architect usually looked upon their fees as a secondary consideration, and did their work for the work's sake. With regard to the remarks which had been made as to the principle of payment by commission being an immoral arrangement, no doubt it was an unhappy one, but the young architect, he thought, fully realized that his career would be made not by his financial income or by piling up the cost of the work, but by getting economical buildings for his client and making, and afterwards maintaining, a proper reputation. In the course of their work, architects had to deal with specialists and structural engineers, and there was an undoubted tendency at the present day for everyone to more or less specialize, which meant professional unions. The aim of the paper seemed to be exactly the same as that of the labour market, namely, to get national federation. The legal and medical professions had it to a certain extent, and there was no doubt that professional combination had resulted in nothing but good both to the public and to the respective professions. Similarly architects would benefit by a greater professional unity. With regard to advertising, he thought it should not be allowed in any form. If it were permitted at all it would be very hard indeed to draw the line anywhere; for instance, if an architect were allowed to put his name upon a board it would be necessary to make a rule limiting the height of the letters, and so forth. Nothing was more degrading, he thought, than for a professional man to have his name appearing on a board in letters two feet deep. Fancy a lawyer or a medical man committing such an indiscretion! Architecture would never gain the respect of the public if such things were permitted. He did not think a job was ever gained by advertising, and it was simply lowering the profession to the position of a trade. They had plenty of precedents as to the mode of procedure to be adopted in forming and issuing a code of ethics, and it was not a question of their own members so much as of the general public; the only reason they desired all men to be properly qualified before being allowed to practice architecture, was that the public might get a proper building for the money they expended. With regard to the protection of members of the profession, he thought the suggested Board of Control an excellent idea, because in the case of an honourable architect having suggestions made to him regarding his reputation it would be quite a simple matter for him to submit the case for thorough investigation of the Board of Control, when he would be immediately protected from further slander. A good many jobs were lost to architects through the freeholder's surveyor supplanting the architect originally invited, by foregoing certain fees. Mr. Butler had said that architects should accede to the lawful demands of local authorities, but it was a question as to what was a lawful demand. Sometimes, what practically amounted to blackmail was practised on their clients by the local authority demanding a strip of land at the front of a site in consideration of their passing the plans. In such a case an architect would be perfectly justified in resisting the demand. The question of a fixed scale of charges was a difficult one, inasmuch as if a minimum must be fixed it would have to be for the most simple work and then it would be very difficult to get a higher rate of payment when more difficult work was obtained. He did not think their present mode of payment was any system at all. He thought that a client could not justly be asked to pay for an extra set of plans at the completion of a job. Every architect knew that for a decent sized job it was absolutely necessary to have a plan prepared showing exactly how the work had been executed. The architect had to be in a position to give the surveyor proper particulars for measuring up valuations, and he did not think it was right for the architect to be the first to commence putting in a bill for extras, which should be taken into consideration when the fees were arranged. With regard to the architect's duty to the contractors it was often found that the work of the latter was retarded by the architect supplying the details long after they were required. Mr. Butler suggested that it was unprofessional for an architect to accept any commission or substantial service from a contractor. He, the speaker, did not know whether "substantial service" was a legal term, but thought it would be better if the word "substantial" were left out altogether. The scale of charges should, he thought, be entirely omitted.

MR. A. LAURENCE COX, F.S.I., A.M.INST.C.E. (Member), said with reference to the remarks of the previous speaker that he quite understood the position of the architect in regard to local authorities, when they refused to pass the plans unless a strip of land were given up. He had had some experience with local authorities, and he thought, if plans were submitted that were strictly in accordance with the local bye-laws and the various statutes in connection therewith, the local authority could not insist upon such a demand, but where the plans deviated in some way and some sort of bargain was made between local authorities and the client, he did not think there was any real source of complaint. In many cases building owners and local authorities made concessions, and were more or less mutually satisfied. In regard to advertising, some professional bodies raised no objection to it, while others did. He thought, it made very little difference whether they as a Society objected or not, for architects would advertise in some form or another, although, there were some extraordinary creatures who apparently did not care for publicity or remuneration of any sort. He saw no reason why advertising should not be permitted, so long as it was indulged in moderately.

THE CHAIRMAN, Mr. Percy B. Tubbs, F.R.I.B.A. (Vice-President), then summed up the discussion, and said he personally hoped that a Code of Ethics would be adopted, and that the Council of the Society would appoint a Committee to enquire into the matter. The discussion that evening would be of the greatest possible assistance to them. There would, of course, be some difficulty in enforcing a code, and he would very much like to see a Board of Professional Control as suggested by Mr. Butler. He thought it quite possible that if it were properly constituted it might ultimately develop into the Registration authority if they were so fortunate as to get a Bill through Parliament. With regard to architects charging by commission, he quite agreed that it was absolutely wrong in principle, and ought to be altered at the earliest possible moment. With regard to provisions against taking illicit commissions being no longer necessary owing to the recent Act of Parliament, he, the speaker, thought the Act had made matters worse if anything, for as matters were originally only one man was considered to be in the wrong, and he was the receiver of the commission, but under the Act both giver and receiver were condemned, and consequently the lips of both parties were hermitically sealed from the moment the transaction had taken place, and there was less likelihood than ever of such things becoming known.

A vote of thanks to Mr. Butler was then put to the meeting, and carried with acclamation.

MR. C. MCARTHUR BUTLER, after expressing his thanks, said he would reserve his reply and communicate it in the Proceedings.

MR. G. A. T. MIDDLETON, A.R.I.B.A. (*communicated*), says the author seems to have said everything almost, and to have taken an attitude that is most difficult to attack. Perhaps it may be open to debate whether a written code is so good as one which is understood, as leading to possible harsh decisions when circumstances might warrant a lenient view being taken. At the same time, the value of strict discipline is great, and machinery for its universal enforcement, with safeguards for even-handed justice, are much needed. His impression is that the inclusion of some representatives of the public on the Board of Control might be essential to secure this in all cases. It has also been suggested to him that a point should be made of forbidding a custom, by no means unknown, of *giving* commissions for the introduction of work and for information of work likely to come, to officials, perhaps, of public bodies, enabling members of those bodies to be "got at."

MR. A. B. HAYWARD, Member (*communicated*), thinks as the ownership of drawings is one of the most important things to be remedied at the present time, and that it is most unjust that the client should be considered the owner of them in the eyes of the Law, they being merely the instruments employed by the architect to produce the building ordered by the client, and as such should be as much the property of the architect as his tee-square or five foot rod. In the few cases in which the writer's clients have applied to him for drawings he has only delivered up the actual ones signed by the client, all details, etc., being retained. Whether this is correct or not in Law he does not know, but even to have to give up these drawings is in his opinion unjust. As to the scale of fees as sanctioned at present, it appears to him to work fairly well on the whole, except when it comes to the question of paying for applications to County Council, Local Councils, drawings for District Surveyor for certificate or, in the case of public buildings, for his use. The architect must be paid for these, yet the number of them required has increased considerably of late years, and the scale as issued by the R.I.B.A. hardly makes it sufficiently clear that fees for such work are over and above the 5%, and sufficient emphasis is not made in the scale of the fact that these charges in some cases amount to a considerable sum, and clients are not clearly led to understand that this work entails much extra labour and trouble to the architect. The writer has always obtained payment for them, but a client might sometimes think that he is being mulcted pretty heavily, and consider an architect an expensive luxury, when he finds that he has to pay for so many additional sets of drawings for authorities whose *raison d'être* may seem to him merely to be in their turn to supervise the architect. With reference to advertisement, he thinks the modern tendency originated by the Garden City Movement Exhibitions, and the *Daily Mail* Cheap House Brand of Exhibitions, is a mistake and does harm to the profession. It is exceedingly difficult, if not impossible, for a young man not to participate in these when he sees his professional brethren, more distinguished than himself doing so, and Prize Cottages being put up at almost impossible prices, and in his opinion, it would be entirely in the true interests of architects, if the various governing Societies would discourage them as much as possible and do all in their power to persuade their members that it is undignified and unprofessional to take part in them. If they were frowned upon, by the professional powers that be, he thinks they would die a natural and unregretted death. Illustrations of one's work in journals, books, papers, collections of designs of houses, etc., etc., seems to him to be quite fair and legitimate, and if considered advertising is legitimate advertising.

MR. H. FREYBERG, F.S.I., Member (*communicated*), considers that if in drafting any code of ethics for professional conduct, all Architectural, Surveying and

Engineering Institutions, could first agree to certain general principles applicable to all members of those Institutions, it would not only bind them, but also could not fail to influence unattached people and the general public. The general principles being agreed, each Society could then deal with details particularly applicable to its own profession, and could formulate a scale of charges, this latter would necessarily have to be on elastic lines, and should in the writer's opinion insist on a minimum. The professional man should not consider his duty to his Society ended with his own election, as really it should begin there. He should when he comes across really qualified but unattached men do his best to enlist them for one of his own Societies, as he will be effecting a double gain, first by increasing the membership of his own Society, and secondly, by reducing the number of the unattached. If the various professional institutions and their members would work in this direction they would soon become so powerful that Registration would follow as a matter of course, with the result that a legal status would be conferred with an advantage not only to the professional man, but to the individual client and the general public.

Mr. H. GUICHARDE TODD, F.S.A. (Scot.), Member (*communicated*), says the practice of Ethics cannot be codified in relation to architecture any more than they can be codified to the practice of art, to which it is sister in ideal and temperament. To attempt to do so is to degrade the profession to mere commercialism, which of course, being on a lower plane demands the protection of rules for individual safeguard against the misuse of antagonistic forces. Commercialism, at any rate in this age, is admittedly a struggle for worldly supremacy expressed in £ *s. d.* To bring the practice of architecture down to this level is to deal a deadly blow against all that is lofty and noble in its true pretensions, viz., the expression of the beautiful in stone and brick whilst administering to the sheltering comforts and wants of mankind. It may be argued that all this leaves outside the practical question that artists, whether architects or otherwise, must live, and ideals are not a sufficient equivalent to bread and meat, whilst the mere struggle for physical existence brings into play a low type of competition. It is this which it is argued must be regulated by a code of ethics. This is a most insidious argument, and should be strenuously opposed by everyone who has the honour and high standard of the profession at heart. Even from the so-called practical standpoint, it is worthless, for the evils of competition lie outside a written code, consisting as they do of meannesses, trickery and deceit. When these become intensified into something worse, ethics no longer apply, and the laws of the country take the culprits in hand. Experience has demonstrated beyond dispute that expressed codes play into the hands of the unscrupulous, because by successful fencing, they get round the written law and so justify their sordid dealings. It is useless to tell them that they have done a mean thing when they can triumphantly point to the written code and ask " Wherein have I offended ? " The true artist with the ethical spirit, not the written code merely, guiding him, will be more defenceless than ever, for the soul of real brotherhood in art will have been buried in this penal code and there will be none to help. The real protection for the struggling artist or member of any honourable profession is the consciousness that he belongs to a body, to the members of which honour and honourable dealing have become as much part of their existence as the atmosphere they breathe. To loosen that hold on life by formulating codes is to deprive him of his surest stronghold, for it may assuredly be assumed that men who are actuated by a spirit of honour and true ideals will not be wanting in giving a helping hand to their brothers who are less fortunate in the battle. But once taint the atmosphere of a profession allied to art with a written code of ethics, if indeed, it is possible to put such a code into words, and the evil savour of commercialism, "Each man for himself," will prevail, and the fine susceptibilities of honour and pure aspirations will become transmuted into base metal. The integrity of the members of the Bar is undoubted. The personal honour of its members is their most cherished attribute although the temptations must at least equal the temptations of the architectural profession. The Bar has no written code of ethics, there is something better, an unwritten code, infringement of which makes the defaulting member liable to be ostracised by his fellow members of the Bar. To the man of honour no punishment can equal ostracision by his fellow-men, and no determent can be so effective as the fear of being ostracised. Immediately a code of ethics is written, it ceases to be ethics, and one trust no longer to a man's honour, as he is justified in construing the code strictly to the letter (as with an Act of Parliament), and is usually justified in getting round it if he can. If a penal code is seriously proposed in the practice of the profession of architecture, it can only mean that the promoters and supporters of such a code consider that no member of the profession is above suspicion—in fact, that all members *are* under suspicion. The proposal is to safeguard each member of the profession against every other member! Of Mr. Butler's 14 suggested clauses, nearly all are designed to protect the architect from his brother architects. If such a code is agreed to, we shall have the peculiar position of architects agreeing to restrict their own operations to protect themselves! He suggests that Registrationists should try to think that Registration will be sufficient, let us believe that the training and education made necessary under Registration will inculcate principles of honour, and when architects ask for a measure of Registration, let it be a profession of gentlemen, asking for what is due to them, and not a horde agreed on one point only—the necessity for protection from one another. Under Registration, the Executive or General Council would have power to proceed against individuals on specific charges of unprofessional conduct, should any such occasion arise.

Mr. C. McArthur Butler, f.c.i.s., Secretary of the Society (*communicated*), points out that he brought the matter forward at the request of the Council with a view of eliciting opinions and criticisms in anticipation of further consideration of the subject by them. As the opinions expressed will in due course be scheduled for the information of the Council, he confines himself chiefly to answering questions of fact.

Before drafting his notes he had held the same opinion as Mr. Lovell, in thinking that the Society should at once put forward a code of ethics for the use of its members, without reference to any other architectural body, but on further consideration he came to the conclusion that a great deal more could be accomplished by co-operation.

The proposed Board of Control is intended to deal with professional matters, and not to be the medium of setting the common law in action. The Society's Registration Bill provides for a central Council, and reserves certain powers for dealing with professional misdemeanours which imply the existence of a code of ethics.

The regulations of the Institution of Civil Engineers on this subject consist of six clauses relating respectively to the source of remuneration, illicit commissions, undisclosed interests, improper soliciting, and payments on behalf of clients.

The Secretary's suggestion is that there should be two documents, one a schedule of general principles of practice, and the other certain regulations arising out of these principles defining unprofessional conduct.

Several instances have occurred of architects being invited to tender for work on the basis of fees. He agrees with Mr. Collard, that from a personal point of view it may well happen that an architect may not be desirous of securing individual honours, but the slight to the profession, as a body, remains the same when they are not conferred on the deserving individual.

In regard to the scale of charges, possibly the difficulty might be met by a sliding scale or similar arrangement. The expert services referred to are those of the architect, who should place his own value upon them. The reference to experts naming prices in competition with each other only applies to tendering in regard to fees. With respect to advertising, the Secretary is of opinion that advertising, directly or indirectly, must either be discountenanced in any form or the matter left alone. The question of anonymous communications to the press does not refer to editorials or comments by an editor who happens to be also an architect.

The Secretary cannot agree with Mr. Collard that an architect is obliged to accept a commission if he does not wish to, and he does not think a law limiting the practice of architecture to qualified men would in any sense be an injustice to a genius. It is very difficult to imagine an unqualified architectural genius.

Mr. Seth-Smith's remarks will be of the greatest possible practical value; and in regard to the Society publishing the ethical codes issued by other Architectural Societies abroad, the one put forward by the Secretary is compiled from these sources. The proposal for a central Board of Control is not intended so much as an addition to any existing organization, as a federation of their representatives.

Mr. Martin speaks from an engineering standpoint, and has already dealt with the matter in his interesting Presidential address. The Secretary agrees that the interests of the two professions are to a large extent identical in this matter.

Those who, like Mr. Ackerman, have studied the printed documents relating to the question of etiquette in the medical profession, will share his astonishment at the detailed way in which this matter is dealt with.

He agrees with Mr. A. Alban H. Scott, that very frequently the architect places the question of fees last, but it is one of those very practical questions which have to be dealt with. He has always been in favour of federation as applied to the architectural profession, and is very much in accord with the views of Mr. Freyberg in regard to the duties of a professional man to his Society, and it is obvious that if every member held the same opinion it would be very greatly to the advantage of the Societies concerned and also of the general public.

The writer is in sympathy to some extent with the views expressed by Mr. H. Guicharde Todd, though he cannot see that there is anything degrading in a suggestion for a schedule of principles and a code of ethics in connection with the profession of architecture, and he has expressly pointed out that the regulations laid down in any code must not be assumed as a denial of the existence of other points equally important. He is glad however to find one of the speakers dealing with the matter from the point of view of the artist.

The writer regrets that Mr. Middleton was prevented by absence abroad from attending the meeting and expressing his opinions personally, but as a member of the Council, Mr. Middleton will have an opportunity of doing so at a later date.

In regard to Mr. Hayward's remarks on the ownership of drawings, the fact remains that the architect must give up if demanded by the client, and the only way out of the difficulty is to get the law amended. Mr. Hayward's reference to advertising illustrates the difficulty of limiting it, if the principle is once admitted.

The Secretary has received a number of communications both from inside and outside the Society tending to show that the question is considered to be one of considerable importance, and he hopes that those members who have not yet read the introduction to the discussion will do so, and communicate their views on the matter for the information of the Council.

Notes on some Principles of Professional Practice and Suggestions for a Code of Ethics.

BY MR. C. MCARTHUR BUTLER, F.C.I.S., SECRETARY OF THE SOCIETY.

FOR some time the Council have had under consideration the question of drafting a Code of Ethics relating to matters of professional etiquette in the Architectural profession, and it was thought the importance of the subject warranted it being brought before the Members with the view of eliciting opinions thereon, and if possible, of formulating some basis on which further action might be taken by Council of the Society.

The honour of opening the discussion was placed in my hands and in going into the matter I found that the information then in my possession regarding the question in relation to professions generally was inadequate to enable me to deal usefully with the subject, and therefore, as a first step, I approached some fifty Societies connected chiefly with Architecture, Engineering, and the Allied Professions at home and abroad, but including also a few Institutions representative of other callings, and I desire in the first place to acknowledge the very kind way in which the Secretaries of the Institutions concerned, most freely and promptly gave me the information I sought.

I make no claim to originality of ideas or methods in introducing the subject, my efforts having mainly been directed to collecting and collating statistics and details, but if I am unable to place any fresh information before you, I hope to focus your attention in such a way as will elicit your criticisms and suggestions.

I propose in the first instance to make a brief reference to the practice and custom prevailing in other professions, then to consider what is being done by Architectural bodies, subsequently making a reference to some of the main principles which it appears to me should govern Architectural practice, finishing with some suggestions for procedure, and for the basis of a Schedule of Practice and a Code of Ethics, dwelling, if time permits, more particularly on those points on which a difference of opinion may be likely to exist, and which therefore best lend themselves to discussion and the interchange of ideas.

CUSTOM IN OTHER PROFESSIONS.

I need only refer in passing to the professional etiquette prevailing in such professions as those of Law and Medicine, the Code applying to the latter being probably one of the most stringent, so much so that from a perusal of letters in the public press, one is led to think that the line may sometimes be drawn to an extent which might appear to amount to an injustice in certain cases.

In these professions as well as in others possessing similar statutory powers, the existence and power of enforcement of the regulations which they adopt, tend, in my opinion, to create and maintain a high standard among their practitioners and a corresponding standing in the eye of the public, seeing that any serious breach of professional etiquette is followed by the offender being deprived of further opportunities of practising; though, in professions having no legal standing the offending member may be struck off the roll of the Society to which he belongs, but that does not, at present, prevent him carrying on his practice, and is not in the present condition of these professions, so drastic a punishment or deterrent as it is in the case of others.

Among the numerous Institutions representing the Engineering, Surveying, and allied professions in the United Kingdom, the only one, so far as I am aware, which has a Code of Ethics as well as By-laws, is the Institution of Civil Engineers, whose procedure in this respect is being closely followed by the Institution of Electrical Engineers, and by the newly formed Association of Consulting Engineers.

I understand that the American Engineering Institutes adopt similar methods.

Other Institutions and Societies, such as those representing the interests of Gas, Mechanical, Mining, Marine and Sanitary Engineering and Surveying, have at present no Code of Ethics, though in one or two cases the matter is under consideration. Most of them are content with retaining power under their By-laws of dealing with any matters of professional practice affecting their own members.

The opinion has been expressed that in some cases, such for instance where an Institution is called upon to act in a judicial capacity in dealing with complaints regarding professional etiquette or misconduct, a Code might limit and hamper that Institution in the performance of these duties, but the general feeling appears to be in favour of a Code.

THE ATTITUDE OF ARCHITECTURAL SOCIETIES.

We will now consider the custom in regard to Architectural Societies, noting first Colonial and Continental practice.

The American Institute of Architects offers to its members advice relating to the principles of professional practice, and puts forward a canon of ethics.

The Architectural Institutions of Australia are co-operating in compiling a Code, while the one issued by the Central Society of French Architects, has I understand, been adopted by other French Architectural Societies.

In South Africa, similar measures are being adopted by the various Associations of Architects, following the successful efforts which have been made in that country in regard to the Registration of Architects, a matter in which The Society of Architects through its South African Branch, played no inconsiderable part.

In Canada, the Royal Architectural Institute of Canada and other Associations of Architects, which are rapidly springing up in that progressive Dominion, have each their Code of Ethics, administered in most instances, I believe, under an Act of Parliament.

In this, as in some other matters such as Registration, the Societies at home are content to follow where they ought to lead. Let us see what is being done in regard to this subject by these Societies.

Architecture is one of the few, if not the only one, of the great professions, the practice of which at home is not regulated by Act of Parliament, and probably it is the only one which is split up into so many Institutions and Societies, all having very much the same general aim. There are for instance in London, the Royal Institute of British Architects, The Society of Architects, and the Architectural Association, and in the Provinces there are seventeen Architectural Societies allied to the Royal Institute, besides several at present unattached, and others in course of formation. All these Societies have By-laws which enable them to deal with specific charges against their members, and in most cases a member on joining has to sign a declaration against illicit commissions as well as an undertaking to keep the regulations.

The Allied Societies as one would expect are, practically in every case, governed by the general practice of the R.I.B.A. as contained in the resolutions published in their Kalendar. These relate to the signing of buildings, and display of names by Architects, the making known to the client of the Architect's interest in materials or devices used on buildings, the question of supplanting other Architects, and the payment for the quantities by the client (a matter dealt with in the Schedule of Charges), and also include the recent regulation relating to participation in Architectural Competitions.*

THE EFFECT ON THE PROFESSION.

Thus we find the Architectural profession as a whole, at present without any generally and publicly recognised schedule of the principles to be observed in practice, no publicly recognised competition regulations, no publicly recognised scale of charges, and no publicly recognised penal Code, the regulations which are at present in force, excepting the one relating to competitions, being more in the nature of expressions of opinion and relying upon custom for their enforcement, so far at any rate as they relate to unattached Architects.

Each member of the profession may set his own standard and is not amenable to any discipline beyond that implied in his voluntary obligation in respect of the rules of any professional body to which he may belong, which are usually confined, as previously stated, to a declaration against illicit commissions (now probably rendered unnecessary by Act of Parliament), and an undertaking to keep the rules, the most important of which, in the opinion of the member concerned, is probably that relating to the payment of dues.

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*[It is understood that the Council of the R.I.B.A. are considering the advisability of drawing up and publishing a Code of Ethics for the guidance of members.—ED.]

In the rare cases, if any, where action has been taken by an Institution not acting under Statutory powers against a member for unprofessional conduct, removal from the roll of such Institution on this ground, so far as the public or even the profession beyond those immediately connected with the case is concerned, has no more effect than if such removal was due to the relatively milder breach of the rules relating to the payment of the fees, seeing that the reason of the removal of the offender from the register, is not made public, nor is he thereby debarred from continuing to practice.

The unattached architect, whose name is legion, has not even this deterrent, and is under no control within the limits of professional matters.

SUGGESTIONS FOR A REMEDY.

This state of things can be remedied to some extent, and at present, so far as Architectural Societies are concerned, by the universal adoption by them of a Schedule of Principles and a Penal Code; but the unattached Architect still remains uncontrolled, and in my opinion, the only effective way of dealing with the whole matter, is by statutory powers such as would be provided under a Registration Act.

Is it desirable under these circumstances that a Schedule of Practice and a Code of Ethics should be instituted for the Architectural profession, and if so, on what basis should the latter be drafted, bearing in mind the fact that Architectural Societies reserve to themselves power to regulate if only to some limited extent, and on certain points, the conduct of their members, and that it would appear that by laying down wider regulations they might possibly be hampered when dealing in a judicial capacity with these matters ?

In my opinion, the desirability in principle for a Schedule of Principles of Practice, and a Code of Ethics, is admitted, and that what is good for the Societies concerned may be held to be good for the profession generally.

Here, however, we are faced at once with the difficulty already referred to of dealing with that considerable body of Architects outside any Architectural Society, who possibly could not be expected and certainly could not be obliged to adhere to any general schedule or code, nor against whom could such a Code be enforced in the absence of any controlling body representing the whole of the profession and vested with statutory powers.

A BOARD OF PROFESSIONAL CONTROL.

In the absence of, or in the anticipation of, such a controlling body as would be constituted under a Registration Act, I suggest the immediate formation by agreement between the Architectural Societies, of a Board of Professional Control, representing every Architectural Society in the United Kingdom in such proportion as may be arranged.

This Board would have no power to interfere in the domestic policy or procedure of the Societies concerned, but would act after due deliberation, with the weight of combined authority, on any questions of public or professional interests, and might also act as an appeal or advice court if required to do so by any Architectural Society in regard to any question affecting that particular Society.

By this means pressure could be brought to bear both on public bodies and members of the profession, much more efficiently than under the present system, while it would be very difficult and highly undesirable for even the unattached Architect to ignore the fiat of a body so constituted; indeed, in my opinion, one effect of the formation of such a body would be to encourage those outside to come into one or other of the Societies.

In other words, there would be unity of action and cohesion when there now exists weakness and impotency, and as, in my opinion, everything points to unity being presently secured under a Registration Act, I think we may well in the meantime lay down certain principles of practice and be prepared with a Code of Ethics acceptable to the various Societies, with a view to general adoption now, and their incorporation in an Act of Parliament in due time.

In the course of my enquiries, I have found that considerable interest is being taken in the suggestion among Architectural Societies, several of whom are prepared to consider any proposition ; therefore, I think there is every reason why The Society of Architects should persevere in this matter and endeavour, if possible in conjunction with other interested bodies, to see the matter carried into practical effect.

ARCHITECTS AND THE PUBLIC.

I recognize the fact that just as the possession of a Royal Charter or of Statutory powers while conferring dignity and responsibility, may at the same time to some extent limit and restrict the operations of the body which possesses them, leaving the less favoured in this respect more free to develop and expand, so to lay down too severe a Schedule of practice and Code of Ethics might possibly tend to restrict the freedom of professional practice and the progress of the art of Architecture, but on the other hand, the want of some reasonable and definite standard, or the absence of any general and agreed pronouncement made under the combined authority of the various Societies on behalf of the profession, accounts, in my opinion, for the fact that not only is the profession divided against itself in certain matters of policy, and its members distrustful of one another, but the public and public bodies are led to imagine that the standard of architectural etiquette, if it exists at all, is so low that Architects may be called upon to tender for work, to accept public appointments or private work on inadequate terms, to enter into competitions arranged on undesirable lines, and generally to conform without protest in matters and to conditions which would not for a moment be entertained by members of any other profession.

The relative position which an Architect holds in the opinion of the public is often shown on occasions such as the public opening of a building, when the Architect is frequently the only person connected with the undertaking who is not mentioned in the report of the proceedings, nor does the profession get more than a very scanty share of the titular honours so freely bestowed in other directions.

Essential Qualifications for the Practice of Architecture.

I will assume, therefore, for the moment, that we agree in principle, and that we can get on with the form which such a schedule of practice and a Code of Ethics should take, and it appears to me that as the profession is at present constituted, and pending Statutory Registration what we should aim at should be the constitution of such a body as I have indicated, and the laying down of certain principles of professional practice, and from these to draw up certain rules, the violation of which would constitute unprofessional conduct.

From a perusal and comparison of the various Codes in use amongst Architectural Societies at home and abroad, I have found them to be very much alike and in regard to setting out the principles of professional practice, I consider that the circular issued by the American Institute of Architects which offers advice relating to professional practice, can hardly be improved upon, in seeking to maintain a high standard of practice and conduct on the part of members of the profession as a safeguard of the important financial technical and esthetic interests entrusted to them.

The profession of Architecture, as the American Institute truly says, calls for men of the highest integrity, business capacity and artistic ability. The architect is entrusted with financial undertakings in which his honesty of purpose must be above suspicion ; he acts as professional adviser to his client, and his advice must be absolutely disinterested ; he is charged with the exercise of judicial functions as between client and contractor, and must act with entire impartiality ; he has moral responsibilities to his professional associates and subordinates ; finally, he is engaged in a profession which carries with it a grave responsibility to the public. These duties and responsibilities cannot be properly discharged unless his motive, conduct, and ability, are such as to command respect and confidence.

I am of the opinion that if the Architectural Societies will take a wider view of their responsibilities to the profession, while not neglecting their own immediate concerns as Societies, and work together, by means such as I have indicated, on all matters of general interest to the profession or the public, they can even under present conditions do an enormous amount of good in the direction of maintaining a high professional standard and consequently in raising and maintaining the whole tone and standing of the profession and of the art in the estimation of the public.

No set of rules can be framed to include all the duties of the Architect in his various relations to his clients, to contractors, to his professional brethren, and to the public, but the following may be enumerated as some of the main principles which should govern the conduct of members of the profession and may serve as a guide in circumstances other than those enumerated.

Suggestions as to some Main Principles to be observed in Architectural Practice.

THE ARCHITECT IN RELATION TO HIS CLIENT.

(1) **Status.**—The Architect's relation to his Client throughout the entire course of his services, is primarily that of a professional advisor, but an additional relation is created when the Architect is made the interpreter of a Contract between his Client and a Contractor, though the fact that the Architect is paid by the Client does not invalidate his obligation to act with impartiality.

(2) **Drawings and Estimates.**—The Architect provides preliminary drawings and estimates when required, but if an unconditional limit of cost is imposed before the contract drawings are prepared, he must be free to make such variations from the preliminary plans as may be necessary. It is desirable in regard to works of any importance that a specific agreement be come to with the Client before the signing of the Contract, regarding the ownership of the drawings and other documents or the supply of a duplicate set, at the expiration of the work.

The Architect should not by bond or otherwise guarantee an estimate or Contract.

(3) **Superintendence.**—On all work except the simplest, it is to the interest of the Client to employ a superintendent or clerk of the works, and in certain cases to also retain the services of experts. These persons, although paid by the Client, should be selected by the Architect under whose direction they are to work.

(4) **Charges.**—The Schedule of Charges as approved by the Board of Professional Control is to be the minimum of payment to the Architect, and as circumstances may justify a higher charge it is desirable that the charges be agreed between the parties before the work is put in hand.

The Architect may not compete in regard to fees, or undercut to secure work.

(5) **Payments.**—The Architect shall not be the medium of payment made on behalf of his Client except by special agreement, but shall only issue certificates or recommendations for payment by his Client.

(6) **Expert and Honorary Services.**—The Architect when retained as an expert, should receive payment proportionate to the responsibility and difficulty involved. Experts should not knowingly name prices in competition with each other.

The Architect should not perform work in an honorary capacity except for charitable purposes approved by the Board of Professional Control.

(7) **Tenders.**—In advising that none but trustworthy bidders be invited, and that the Contract be given only to persons who are reliable and competent, the Architect protects the interest of his Client.

THE ARCHITECT IN RELATION TO THE CONTRACTOR.

(8) **Contractors and Craftsmen.**—As the Architect decides whether or not the intent of his plans and specifications is properly carried out, he should see that these documents are complete and accurate, and should not call upon the contractor to make good oversights or errors in them, or attempt to shirk responsibility by permitting indefinite clauses in the Contract or Specifications.

While he must condemn bad work, he should commend good work, and intelligent initiative on the part of craftsmen and other workmen should be recognized and encouraged.

THE ARCHITECT IN RELATION TO THE PROFESSION.

(9) **Building Trades.**—The Architect should not directly or indirectly engage in any of the building trades, nor be a party to any building contract except as owner. If he has any financial interest in any building material or device he should not specify or use it without the knowledge and approval of his Client.

(10) **Offering Services.**—The seeking out of a possible Client and the offering to him of professional services on approval and without compensation, unless warranted by personal or previous business relations, tends to lower the dignity and standing of the profession and is to be condemned.

(11) **Advertising.**—Advertising tends to lower the dignity of the profession, and is therefore condemned as is the display of the Architect's name upon a building under construction, but the unobtrusive signature of buildings after completion is approved by the Board of Professional Control.*

The use of initials designating membership in any Architectural or similar Society is proper in connection with any professional service, and is to be encouraged as helping to make known the nature of the honour they imply.

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* A Nottingham architect in the course of a letter says he cannot see why it is proper for an architect's name to be permanently carved on a building and not correct for him to put in on a board during its erection. It may be unnecessary for established firms or big London architects, but the public judge by the building itself and not by the plans, and if they are impressed the architect should benefit by his name being known. The restriction is a hardship to the younger and struggling members of the profession.

(12) Competitions.—The Architect should not take any part in a competition unless it be conducted according to the best practice and usage of the profession as formulated by the Board of Professional Control. Except as an authorized competitor he may not attempt to secure work for which a competition has been instituted. He may not attempt to influence the award in a competition in which he has submitted drawings. He may not accept the commission to do the work for which a competition has been instituted, if he has acted in an advisory capacity either in drawing up the programme or in making the award. He shall not submit any drawings in any competitions, other than those designed and prepared under his personal supervision, nor attempt to secure any work for which a competition remains undecided.

(13) Injuring others.—The Architect should not falsely or maliciously injure, directly or indirectly, the professional reputation, prospects, or business of a fellow Architect; nor should he criticize in the public Press the professional conduct or work of another Architect, except over his own name.

(14) Supplanting others.—The Architect should not undertake a commission while the claim for compensation or damages or both of an Architect previously employed and whose employment has been terminated remains unsatisfied, unless such claim has been referred to arbitration or issue has been joined at law; or unless the Architect previously employed neglects to press his claim legally; nor should he attempt to supplant a fellow Architect after definite steps have been taken toward his employment.

(15) Membership in Societies.—As it is only by co-operation and by the personal interchange of views and opinions that the profession can as a body exercise an influence on the art and on public opinion, and its members be brought into better relations the one with the other and with one another, an Architect should qualify for and join and encourage his subordinates to do so, any local Architectural Society and also and in any case, one or other of the larger and more representative Societies, and should take an intelligent and active interest and part in their proceedings.

Should such a course not appeal to him from a personal viewpoint he should look at it from another, that of joining a Society not for what he can get out of it but for what he can put into it, for the general good.

(16) Duties to Pupils.—As the qualifications for the practice of Architecture should be based on general education as well as on technical and professional training, the Architect should so advise intending Students, and give Pupils and Assistants every facility and encouragement to avail themselves of educational facilities, and support to the best of his ability all recognized Architectural Educational bodies and professional Societies.

The Architect should not undertake the training of a pupil, nor take more than one pupil at a time, unless he has the proper facilities, scope and opportunities for giving him, or them, personal oversight and instruction.

THE ARCHITECT IN RELATION TO THE PUBLIC.

(17) The Public and Building Authorities.—The Architect should be mindful of the public welfare and of his duties as a citizen, and should participate particularly in those movements for public betterment in which his special training and experience qualify him to act. He should not, even under his Client's instructions engage in or encourage any practice contrary to law or hostile to the public interest, for as he is not obliged to accept a given piece of work, he cannot by urging that he has but followed his Client's instructions, escape the condemnation attaching to his acts.

The Architect should support all public officials who have charge of building, in the rightful performance of their legal duties. He should carefully comply with all building laws and regulations, and if any such appear to him unwise or unfair he should endeavour to have them altered.

(18) Professional Qualifications.—The public has the right to expect that he who assumes the title of Architect has the knowledge and ability needed for the proper conception, presentation, and supervision of all building operations which he may undertake.

Suggestions for a Code of Ethics, the violation of any Items of which should constitute unprofessional conduct.

The following items are suggested as a guide, but their enumeration should not be construed as a denial of the existence of others equally important, and just as the several items indicate offences of varying degrees of gravity, so the penalty for infringement would involve warning, reprimand, expulsion or such other punishment as the Board of Professional Control may at the time decide.

It is Unprofessional for an Architect—

(1) TO ENGAGE DIRECTLY OR INDIRECTLY IN ANY OF THE BUILDING TRADES, EXCEPT AS OWNER.

(2) TO GUARANTEE AN ESTIMATE OR CONTRACT BY BOND OR OTHERWISE.

(3) TO ACCEPT ANY COMMISSION OR SUBSTANTIAL SERVICE FROM A CONTRACTOR OR FROM ANY INTERESTED PARTY OTHER THAN THE CLIENT.

(4) TO ADVERTISE.

(5) TO TAKE PART IN ANY COMPETITION THE TERMS OF WHICH ARE NOT IN HARMONY WITH THE PRINCIPLES APPROVED BY THE BOARD OF PROFESSIONAL CONTROL.

(6) TO ATTEMPT IN ANY WAY EXCEPT AS A DULY AUTHORIZED COMPETITOR, TO SECURE WORK FOR WHICH A COMPETITION IS IN PROGRESS.

(7) To attempt to influence either directly or indirectly the award of a competition in which he is a competitor, or in which he is interested in any other capacity.

(8) To accept the commission to do the work, either personally or by partnership, for which a competition has been instituted if he has acted in an advisory capacity either in drawing up the programme or in making the award.

(9) To injure falsely or maliciously, directly or indirectly, the professional reputation, prospects or business of a fellow Architect.

(10) To undertake a commission while the claim for compensation or damage or both, of an Architect previously employed and whose claim has been referred to arbitration, or issue has been joined at law, or unless the Architect previously employed, neglects to press his claim legally.

(11) To attempt to supplant a fellow Architect after definite steps have been taken toward his employment.

(12) To compete knowingly with a fellow Architect for employment on the basis of professional charges.

(13) To criticize in public print the professional work or conduct of another except over his own name.

(14) To deviate from the Scale of Charges without permission of the Board of Professional Control.

General Observations.

There are five points in particular arising out of the proposed Schedule of Practice and Code of Ethics to which I would call attention; (*a*) The Ownership of Drawings; (*b*) Scale of Charges; (*c*) Advertising; (*d*) Competitions; (*e*) Architectural Societies; (*f*) Public Authorities.

In regard to (*a*) The Ownership of Drawings. The fact that an Architect can be called upon to deliver up to a Client all Drawings and Documents on completion of the work and payment of fees, in the absence of any express agreement to the contrary, renders it desirable in my opinion to consider the question of endeavouring to get the decision in "Gibbon *v.* Pease" reversed, and in the meantime, in works of any importance, for the Architect to arrange procedure with the Client previously.

In regard to (*b*), The Scale of Charges. The fact that the only authority and recognition which this scale has is based on custom, renders it desirable in my opinion from this point of view to hasten an Act of Parliament under which such a scale would be legalized. On the question of the scale generally, I am of opinion that in the Architectural profession, payment by commission on the cost of the building is wrong in principle if not immoral, as it is exceedingly difficult to get away from the fact that the Architect benefits materially in proportion to the amount spent by the Client, though he may and does in the interest of his Client, make every endeavour to keep within the limit laid down.

The Architect should not in my opinion be placed in a position where it may be inferred that his personal interests are likely to clash with those of his Client.

Again, a minimum scale is not unlikely to be considered or to become a maximum one also.

I have no practical proposal to make at present for the redrafting of the scale as it now exists, and which I understand is under revision by the R.I.B.A.; but it has been suggested to me, why have a scale at all, why should not Architects like other artists, adjust their charges in accordance with what they can command for their services?

In regard to (*c*), Advertising. It all depends on the interpretation and definition of the term, which I take it is intended to mean when applied to Architects, that they should not employ commercial methods of making themselves and their work known to the public, that is to say by direct advertising.

As to indirect advertising, an Architect like any other professional man if he has any considerable practice, can hardly avoid it. His name is constantly brought before the public in the professional Journals and by the technical papers, by the books or papers he publishes, to say nothing of his name and address on announcements on sites for public buildings, for which publicity if he sought it through the usual channels he would have in many cases to pay a heavy charge.

One sees in Colonial papers, Architects' announcements side by side with those of Engineers, and a Canadian journal gives publicity to the fact that an Architect, whose name and address are given, is holding the annual exhibition of his designs and demonstrating the possibilities of various materials and complete schemes for buildings for various purposes. At home the Architect who wishes to advertise must not do so openly but must rely on the kind offices of those, who, presumably with his sanction, on Theatre programmes or in displayed advertisements in newspapers, call attention to the fact, that "this magnificent new Theatre was designed by the eminent Architect, Mr. Jones," or that "this building has been designed by the well-known Architects, Messrs. Smith & Robinson, who were responsible for the . . . . Hotel, etc."

The personal interview or inspired article, illustrated or otherwise, harmless in itself, is but another form of advertisement, and one which also commends itself also to the softer, or shall we say gentler sex, who are seeking their share of the public patronage of Architects.

In regard to (*d*), Competitions. It has been urged upon me with considerable force and frequency by members of the Royal Institute as well as others, that the restrictions very properly laid down by the R.I.B.A., and endorsed by the Society should not altogether apply to small local or limited Competitions. The reason for instance that an Assessor is not always appointed is not invariably that the persons concerned do not agree in principle to such a course, but is sometimes due to the financial margin being so small that it will not justify the considerable expense involved in the appointment of an Assessor, and if the local Architects concerned are satisfied and willing to compete on the terms laid down by the promotors, it is suggested they should not be unduly penalized, under the present conditions prevailing in the profession, where if an Architect is loyal to his Society and refrains from competing, he leaves the field open to others who are not so loyal or who for reasons previously stated are under no control or obligation.

In regard to (*e*), Architectural Societies. One has to allow for human nature, which in this case usually takes the form of joining a Society for personal benefit and making use of it for one's personal ends, though I am bound to say from experience that the other point of view has occasionally prevailed, the possibility of there being any other than the personal view not having previously occurred to the person concerned.

I may here say that in the Dominion of Canada, membership in Local Associations of Architects is compulsory by Law, on those who desire to use the title of Architect.

In regard to (*f*), Public Authorities. The Architect sometimes finds himself hampered with the requirements of By-laws and building regulations, or of those of the officials whose duty it is to administer them, but his efforts will of course be directed to complying with the requirements of lawfully constituted authority and to find a remedy for his grievances (if any), not in endeavouring to evade but to amend those regulations which appear to him to be irksome and unnecessary.

There are, no doubt, many other points on which questions will be raised, indeed several might well form subjects for separate discussion. I have only very briefly dealt with a few, but I have achieved my object if I have interested you in the subject and shown that the main question raised, viz., the desirability for some unity of purpose and action in formulating a definite standard of professional practice and etiquette, and the valuable assistance which might be given in this direction by the various Architectural Societies co-operating while retaining their separate entities, is one worthy of serious consideration.

It only remains for me to say that the opinions I have expressed are personal to myself, and are put forward for the purpose of eliciting criticisms or suggestions, and only to the extent to which they may subsequently be endorsed by those concerned must they be taken as representing the views of the Council or of the Society.

The Ethics of Architectural Practice.

"It is matter of common knowledge that the successful architect must be endowed with qualities more varied in their nature than those which are required of the practitioner in almost any other profession. In the first place he must be gifted with the artistic temperament, while it is also necessary that he should be possessed in no small degree of the more prosaic qualifications which are summed up by the phrase 'business capacity'; moreover, he is frequently called upon to exercise judicial functions in disputes between his client and the contractor. It is eminently desirable, therefore, from a public point of view, that the entrance to the profession should be more strictly guarded than it is at the present time so as to secure that, as far as practicable, only men of the highest integrity may be permitted to undertake architectural work in a professional capacity. So long as the profession remains an 'open' one, however, it behoves all *bona-fide* architects, acting through the recognized societies and institutions, to secure that a high standard of professional etiquette shall be maintained. The Council of The Society of Architects have for some time had under consideration the question of drafting a Code of Ethics relating to matters of professional etiquette, and Mr. C. McArthur Butler, the Secretary of the Society, has collected a great deal of useful information on the subject from some fifty societies connected chiefly with architecture, engineering and the allied professions at home and abroad, and from some institutions representative of other professions. The result of his inquiries is embodied in an excellent paper which he read at a meeting of the Society last night.

"The consideration of this question is fraught with considerable difficulty, owing to the fact that, so long as the architectural profession is not protected by at least some statutory recognition of the principle of Registration, any code which may be drawn up cannot be enforced by any adequate sanction. In 'closed' professions, like those of law and medicine, for example, any flagrant breach of etiquette or act of professional misconduct can be visited with absolute suspension from practice. In the profession of architecture, on the other hand, the utmost punishment would be removal from the roll of any society to which the offender might be attached—a punishment which he might himself forestall by a voluntary resignation, leaving the council of his institution without any jurisdiction over him, and continuing to practise with impunity. Mr. Butler fully realizes this difficulty, and, failing the establishment of a controlling body clothed with statutory powers, we think that his method of meeting it is an excellent one. He advocates the establishment of a voluntary Board of Professional Control, comprising representatives of the various existing societies, to act in all questions of etiquette, or affecting public or professional interests. If such a board were created it would be impossible for a delinquent to fly from one society or institution to another, and the position of the unattached architect would be considerably weakened. In regard to the actual compilation of a code, however, in our view this should be made as short as possible, and at first should only deal with matters of fairly general occurrence, such, for example, as the practice in relation to competitions. Other matters might be dealt with as they arise, and points of doubt might be submitted to the Board for their opinion from time to time; the board acting in an advisory capacity, and its decisions being preserved in permanent form for general guidance. The various societies could then be trusted to apply to their members the principles so established. The whole question of professional etiquette is of great importance, as directly affecting the degree of esteem and confidence in which the profession is held by the public, and The Society of Architects are to be congratulated on having taken up the matter with so much vigour and enterprise."—*The Surveyor.*

" By initiating a discussion of the subject of Professional Ethics, The Society of Architects has done good service to the architectural profession, but the discussion if adequate will we fancy reveal a great difficulty in the general acceptance of any code that may be put forward, and so much difference of opinion amongst practitioners of Architecture as to render highly improbable the approval of any penal consequences to those who trangress a suggested code. The question of a penal code of professional ethics is closely connected with that of Registration, for Registration implies the existence of a registering authority, with power to admit or refuse the names of certain persons to the list under its control and to remove names already inscribed for good and sufficient reasons. Hence many architects are in favour of the principle of Registration because it connotes some control of professional ethics, and others are opposed to the principle for the same reason.

" We cannot help believing that a great deal of the animus that distinguished the question whether architecture should be regarded as a profession or an art was due to a conviction that if it is a profession there should be some code, written or unwritten, of professional etiquette, but if it is regarded as an art, then the business methods of other artists are permissible in the business of architects. It cannot be denied that these methods as practised by painters, sculptors and other artists are practically indistinguishable from those of tradesmen who offer their goods to the public in a shop window, and make the utmost use of advertisement in every possible form to induce the public to buy those goods.

" So those architects who insist strongly upon their recognition as artists and not as professional men are prone to object to any limitation of their freedom, in common with painters and sculptors, to further their business by the fullest possible use of advertisement, touting and travellers, or by supplanting another artist whenever they get the chance. It is much to be desired that there should be unanimity of opinion and practice amongst architects, either as professional men, with a Code of Ethics, or as artists with the freedom of the tradesman in methods of business. If the discussion initiated by The Society of Architects leads to such unanimity a great advance will have been made, but we are not sanguine as to the unanimity.

"The position of the Royal Institute of British Architects in regard to professional ethics is ludicrous, because that body is governed partly by artist-architects and partly by professional-architects. The few resolutions of the Council on professional etiquette that appear in the Kalendar are rather pious expressions of opinion than regulations for the conduct of its members entailing punishment for infraction. They do not touch many important points, and in particular do not afford any guidance on the delicate and difficult question of professional advertisements, except by the one ridiculous suggestion that an architect's name may be put on a building when it is finished but must not appear whilst it is in course of erection, a restriction that is undoubtedly bad for architecture and the public interest in the art. Instead of telling the members what are and what are not reprehensible methods of advertisement, the Council makes its law as it goes along, and admonishes offenders against an undefined code after transgression, if it happens that one or two of its members are sufficiently indignant to urge a reprimand or remonstrance.

"The peculiar position of the business of architecture renders inconclusive any comparison with those callings that are purely professional, as law, medicine and engineering, but Mr. McArthur Butler makes a good point in his address to The Society of Architects by calling attention to the fact that the architects of France, America, Australia, South Africa, and Canada do, by their recognized societies, inculcate codes of professional ethics.

"We may now pass on to consider the specific articles of the code of practices that are unprofessional for an architect in the opinion of Mr. Butler. First, engaging in any of the building trades, except as owner. This is likely to be generally approved by English architects, though in Germany and some other continental countries architects do act as builders, and we have sometimes thought that the practice of furnishing firms acting as contractors and doing the architect's work for nothing (?) might in the near future require the reprisal of architects taking building contracts. Second, guaranteeing an estimate. This, to some extent, the common law makes one of the newer responsibilities of architects. If an architect receives a commission to design a building not exceeding a stipulated sum, he is held responsible and at least cannot claim his fee if the estimate is exceeded. Mr. Butler's third article, the acceptance of illicit commissions, is now a criminal offence and more than 'unprofessional.' It should not therefore be a matter on which a Board of Professional Control should adjudicate.

" In his fourth article, Mr. Butler says that it is 'unprofessional for an architect to advertise,' but in his subsequent explanation we see that he qualifies his apparently severe dictum by limiting its application to 'direct' advertising. Any code which is to be of value and efficiency must grapple thoroughly with this thorny question and specifically define what is the manner of direct advertising which is to be considered unprofessional. It will never do to leave open the possibility of architects inadvertently overstepping a hazy and indeterminate border line between indirect and direct advertising. Mr. Butler grants permission for indirect advertising when he says that an architect can hardly avoid it.

" The fifth, sixth, seventh, and eighth articles of Mr. Butler's Code, referring to competitions, have already been recognized by the Royal Institute as binding on its members. In his ninth article we think that Mr. Butler again proposes to give judiciary powers to a Board of Professional Control when the High Court already possesses the power of dealing with the matter in question under the law of libel and slander. We fail to see in what circumstances the tenth article of the code—the intention of which is perfectly right—becomes operative, as its action is barred if the dismissed architect has taken legal steps to enforce his claim or if he neglects to do so. We do not see a third alternative course.

" Attempting to supplant a fellow architect must undoubtedly be admitted as unprofessional conduct in any code, although amongst artist-architects of prominent position it has been successfully practised, a quite sufficient reason for their opposition to Registration. The twelfth and fourteenth articles of Mr. Butler's Code open up a rather wide question, as to which he himself puts forward the view, with which we agree, that the payment of architects by commission on the cost of the building is wrong in principle. We must differ with Mr. Butler in regard to his thirteenth article. It would prevent the professional Press from criticizing the drawings submitted in an open competition, except with the assistance of a writer who was not an architect. Competent critics of modern architectural designs who are not architects are hard to find, and unless they are actually practising architects cannot appreciate the merits of competition designs."—*The Architect and Contract Reporter.*

Ordinary Meeting.

The Seventh Ordinary Meeting of The Society of Architects for the Session 1911-12 will be held at 28, Bedford Square, London, W.C., on Thursday, May 9th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Ordinary Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Lantern Lecture on "Grecian Architecture," by Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (Member).

Light refreshments will be served after the meeting.

Meetings and other Fixtures, 1912.

May 1st. Last day for submitting Travelling Studentship Competition Drawings.

,, 8th. The Society of Architects Masonic Lodge 3244. Holborn Restaurant. 5 p.m.

,, 9th. Committees, Council and Ordinary Meetings. Lantern Lecture by Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (Member), on "Grecian Architecture." 8 p.m.

,, 25th to 27th. Whitsuntide Vacation.

June 24th. Last day for submitting Students' Quarterly Competition Work.

Sept. 5th. Council Meeting. House List, etc.

,, 9th. Examination Entries Close.

,, 29th. Last day for submitting Students' Quarterly Competition Work.

,, 30th. ,, ,, ,, ,, Scholarship Measured Drawings.

,, ,, ,, ,, ,, ,, Nominations for Officers and Council.

Oct. 1st, 2nd, 3rd. Examinations for Membership.

,, 3rd. Council Meeting.

,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

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The Institute and the Society.

It is only natural that the rejection by the general body of the Institute of the proposals agreed between its representatives and those of The Society of Architects should cause a certain amount of feeling in the Society, and that this feeling should find expression in the speech of its President at the Annual Dinner. The whole incident is most unfortunate, and it is also unfortunate that it should be possible for the Council of the Institute to go so far with any measure in ignorance of the fact that it was so utterly opposed to the wishes of so large a number of its members. On the other hand, if these proposals were really acceptable to the majority of the general body, and Mr. Bond's suggestion that the real voice of the Institute was not heard at the meeting, is a true one, it seems equally unfortunate that the Institute is so constituted that proposals put forward by its Council and acceptable to the majority of its members should be at the mercy of a few energetic malcontents who take the trouble to pack the meeting. While it remains necessary to take the decisions of the general body of so large and widespread a Society in a room in which it is physically impossible for a majority of its members to be present at the same time, it is always possible to assert that the true voice of the Institute has not been heard at a meeting, and most difficult to deny the assertion. The Institute appears to have outgrown the arrangements thought sufficient in the original Charter. Although we gather from Mr. Bond's remarks that, so far as the Society is concerned, further progress towards fusion is doubtful, yet we are glad to see that he anticipates cordial co-operation with the Institute in everything that tends to the improvement and essential unity of the profession. This unity, we think, can be best secured by the fusion of the whole of the metropolitan architects in one central Society, and this end is worth some sacrifice on the part of the members of the senior Society. But if this ideal cannot be attained, two societies in harmony are better than two in antagonism.—*The Builder.*

The Annual Dinner of The Society of Architects, at the Holborn Restaurant, bore no resemblance to the funereal feast of a body about to undergo absorption in a larger and older organization. The members mustered in great force, the speeches were bright and often humorous, and the musical selections by Miss Beatrice Jeffreys, Miss Ada Wheeler, Mr. Lyell Johnston, and Mr. Ben Lawes enhanced the gaiety of the proceedings. The presentation of the well-deserved Gold Medal to the President, who has served the Society so well during four prosperous years of its history, might perhaps have been rendered a more impressive ceremony. In his reply, Mr. Bond, who was received with a cordial outburst of cheering, was able to assure the members of an unprecedented growth in numbers and a strengthened financial position, notwithstanding the suspension of activities by which the Society has been handicapped. He candidly admitted that during the year not the slightest progress had been made as regards Registration—indeed, the Bill so laboriously devised by a joint-Committee of the Institute and the Society has been referred back, owing to the organized opposition of some of the younger men. Mr. Bond's story of the history of the negotiations for amalgamation with the Institute was candid, and his facts creditable alike to himself and to Mr. Leonard Stokes and the Institute Council.

If some present regretted that recent indications point to the probablity of Mr. Leonard Stokes's prophecy at the Society's last dinner, which the President quoted, being unfulfilled, others doubtless consoled themselves with the conviction that the Society would not suffer either in numbers or prestige. We do not think it will. Its own "insignificant little flappers," at any rate, have not risen in revolt against their own Council, or sought to repudiate a policy to which it was pledged, or set themselves to wreck that which they were incapable of understanding. If that wrecking policy at the Institute unfortunately succeeds we venture to predict that Mr. Bond's good-tempered and wise remarks last Friday will not be forgotten. "If there is any honour in the Institute the agreement will be carried out." If it is repudiated not a few men who do believe in honest effort to unify the profession will seriously reflect which of its organizations is most likely to second their aspirations and deserve their allegiance. Therefore, the very present duty of The Society of Architects is to treble its membership and redouble its activities at the earliest possible period ; so that, ere long, the volume and energy of its response to the call to action may win the battle which, perhaps, has daunted some elsewhere, and who shirked it behind petty pleas of incompatibility of comradeship.—*The Building News.*

The Society of Architects' Examinations.

The Easter Examinations were held on April 2nd, 3rd and 4th, in London, Manchester, Leeds, Cardiff, Birmingham, Oxford and Dublin, the latter being a new centre.

The Council have appointed Mr. A. Alban H. Scott, M.R.SAN.INST., examiner in Section IV., Sanitary Science, in the place of Mr. C. H. Mead, M.R.SAN.INST., who has been compelled, owing to continued ill health, to relinquish the duties. Mr. R. Willock, F.R.I.B.A., examiner in Section IIIA, was prevented by a serious illness from completing his duties, which were undertaken by the Chairman of the Board of Examiners, Professor Henry Adams, M.INST.C.E. Mr. Willock's illness has unfortunately since resulted in his death.

The following have satisfied the Examiners :—

EDWARD RICHARD BILL, 7, Preston Street, Shrewsbury ; WILLIAM BRADLEY, 222, Rishton Lane, Great Lever, Bolton ; SYDNEY FRITZ EVERSHED, c/o Messrs. Law & Harris, 1, Sheep Street, Northampton ; WILLIAM JOHN HADLEY, 12, Richmond Terrace, Carmarthen ; HENRY LYONS, Ivanhoe, Waverley Avenue, Fairview, Dublin ; HAROLD EWART MATTHEWS, Llanvair, The Avenue, Yeovil ; DONALD JOHN MOSS, 44, Linden Grove, Peckham Rye, S.E. ; HAROLD PHAYRE, 12, Promenade, Egremont, Cheshire ; GEORGE HERBERT RUSSELL, Highbury Lodge, Hitchin ; EDWARD DENTON SHERLOCK, 12, Egerton Road, Fallowfield, Manchester ; REGINALD HARDY SYMS, Rosmore, The Grove, Isleworth ; ROBERT THOMPSON, "Brookside," Catshill, Bromsgrove ; HAROLD ASCENSUS WILKINSON, 68, Bury Road, Noel Park, Wood Green, N.

The following Students of the Society have obtained Sectional Certificates :—

SECTION I. (Architecture).—FRANCIS CLEMES, Weston-super-Mare ; CHARLES FORD, Reading ; WILLIAM JOHN ISAAC, Warrington ; ARTHUR BARNES JOHNSON, Croydon ; PERCY MORRIS, Nelson.

SECTION II. (Building).—WILLIAM JOHN ISAAC, Warrington ; WILFRID EDWIN KELLY, London ; LEONARD ARTHUR REYNOLDS, Hull ; FREDERICK JOHN TAYLOR, London.

SECTION III. (Practice).—HALSTEAD BEST, Whitworth ; HAROLD JOHN LURCOCK, London ; JOHN SLATER, Blackburn ; EDWARD JOHN WILLIAMS, Leicester.

SECTION IV. (Sanitation).—JAMES ALAN GRIMSHAW, Accrington ; HAROLD JOHN LURCOCK, London ; PERCY MORRIS, Nelson ; CLEMENT FROST OVERY, Weston-super-Mare ; JOHN EDWARD SANDERS, Liverpool ; JOHN SLATER, Blackburn ; FREDERICK JOHN TAYLOR, London ; EDWARD JOHN WILLIAMS, Leicester.

Proceedings.

THE Seventh Ordinary Meeting of The Society of Architects for the Session 1911-12, was held at 28, Bedford Square, W.C., on Thursday, May 9th, 1912, at 8 p.m.

Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, having taken the Chair, it was resolved that the minutes of the previous Meeting, having been published in the Journal, be taken as read. The minutes were then confirmed and signed.

Twenty-one nominations for membership and four for studentship were announced.

The ballot was then taken, and the following candidates were declared to be duly elected :—

As Members :—

Blackburn. Robert Herbert,	8, Fairbank Rd., Manningham, Bradford.
Boreham. Herbert Yolland,	73 and 75, Finsbury Pavement, E.C.
Chaikin. Benjamin,	47, White Lion Street, Norton Folgate, N.E.
Davies. David Charles,	112, High Street, Merthyr Tydfil.
Diggle. William Wrigley,	10, Victoria Mansions, West End Lane, West Hampstead, N.W.
Dowson. Thomas,	"South Cliffe," Eastrow, Sandsend, Nr. Whitby.
Emery. Burkett John,	Council Chambers, 109, Colmore Row, Birmingham.
Hale. Edward,	Guildhall Buildings, Birmingham.
Hall. John Robert,	10, Paradise Square, Sheffield.
Harbottle. Alfred Charles,	County Chambers, Exeter.
Harbottle. Edward Joseph,	County Chambers, Exeter.
Lane. Henry Aubrey,	6, Park Avenue, Mansfield, Notts.
Milles-Diamond. Harold Victor,	"The Mount," Chandlers Ford, Hants.
Pritchard. Joseph Edward Stanley,	Bank Buildings, Kidderminster, and The Knoll, Comberton.
Richley. Norman,	12, Mowbray Street, Durham.
Sargisson. William Fred,	Ancou, Peru, South America.
Southall. William,	Chapelgate, Retford, Notts.
Sutherland. George Angus,	10, Bridge Street, Wick.
Walker. Harold Gibson,	Golden Lion Bank Chambers, Whitby.
Webb. James Edwin,	The Guildhall, Nottingham.

As Students :—

Bowring. John Valentine,	"Woodlands," Eastwood, Essex.
Craize. Romilly Bernard,	905, Fulham Road, S.W.
Hayward. Fredricke Fisk,	P.O. Box 4492, Johannesburg.
Johnson. Alfred John,	122, Hindmans Road, East Dulwich, S.E.
Priest. Francis Ralph,	39, West Side, Clapham Common, S.W.
Rayson. Thomas,	"Hughenden," Bickerton Rd., Highfield, Oxford.

Travelling Studentship.

The Chairman announced that four sets of designs had been submitted for the Travelling Studentship, and that the Council had awarded First Place to the design marked No. 1. He then opened the sealed envelope marked No. 1 and declared the winner to be Frank Morrall Maddox, 44, Malvern Street, Stapenhill, Burton-on-Trent.

*Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (Member), then gave a lecture on "Grecian Architecture," illustrating his remarks by means of lantern slides.

A discussion ensued in which the following took part: Messrs. G. A. T. Middleton, A.R.I.B.A., Col. F. S. Leslie, R.E., H. Freyberg, F.S.I., R. B. Ling, A.R.I.B.A., Arthur C. Russell, and Percy B. Tubbs, F.R.I.B.A.

A hearty vote of thanks was then accorded to Professor Scott, who briefly replied, and the proceedings terminated.

The Liability of Architects and their Clients for Sub-contracts.

The Council think it desirable to draw the attention of members to the recent decision of Mr. Justice Channell in Crittall Manufacturing Co. *v.* L.C.C., which was an action by a sub-contractor to recover against his clients failing payment by the builder. A clause in the contract entitled the clients to retain the cost of the goods from the builder until he had paid the sub-contractor, but this right was not exercised, the amount being included in a certificate to the builder. The builder failed to pay the sub-contractor, who, thereupon brought an action to recover the amount from the clients, and succeeded, Mr. Justice Channell deciding in their favour on the grounds that the clients were the real principals, and under the terms of the contract, they were the persons interested, not the builder. The Judge expressed the opinion that when the clients' architect instructed the builders to place the order with the sub-contractors on the terms of their quotation, the quotation having been invited by the architect who was the clients' agent, the architect thereby directed the builders to make the contract for the clients. In view of this decision it would seem desirable that in future architects should obtain a written undertaking from the sub-contractor that he will not look to the client or the architect for payment.

[*At the request of the author, Professor Scott's paper on "Grecian Architecture" and the report of the ensuing discussion are left over until the next issue.—Ed.]

A Code of Ethics for Architects.

Lately Mr. C. McArthur Butler, the popular Secretary of The Society of Architects in London, read an instructive and interesting paper before the Society, entitled, "Notes on Some Principles of Professional Practice, and Suggestions for a Code of Ethics."

We understand, says *The Irish Builder and Engineer*, the paper had its origin in an idea of The Society of Architects to draft a code of ethics relating to matters of professional etiquette amongst architects—rather a large subject and a difficult one, it seems to us, to deal with in terms of words, for so many matters of ethics are questions of moral and social propriety and good sense, that it seems almost impossible to reduce them to words and codes of rules. In fact, "ethics" is really moral philosophy, and the proverbial difficulty of codifying men's morals by written rules or laws is clearly apparent in matters professional. The most general and easily enforced rules are the unwritten laws and are those of faith, common sense, and the sense of honour. When one attempts to include with these, rules pertaining to such matters as professional etiquette, the framers of these rules are always liable to the charge of working in a narrow, selfish spirit, and the difficulty of enforcing them is enormous. The medical and legal professions have a wide and generally observed code of professional etiquette, seldom transgressed, and almost entirely unwritten and uncodified, depending upon the good sense and the honour of their members for its observance, though transgression is often sharply punished as "conduct 'infamous' in a professional sense." Nor can it be pretended that the architectural profession stands less in need of such guiding and disciplinary principles than other professions. Mr. Butler, in reading his very thoughtful and exhaustive address, has led us a step forward, and has initiated what may well be the beginning of a system of clearer and more definite principles than have hitherto prevailed. Considering the absence of any really definite code of rules, written or unwritten, it may fairly be said at least that the architectural profession, in its sense of good-fellowship amongst its members, and regard for the interests of the public its employers, and its relations to contractors whom it is called upon to at once work with and to adjudge quasi-judicially, compares not unfavourably with any other calling. Mr. Butler, of necessity, covers a wide area of ground. He deals less with general principles than with definite questions that may arise, and he succeeds in summarizing in a set of fourteen rules or commandments, positive and negative, the "Thou shalt" or "shalt not" of the architectural profession; but whether he has succeeded in bringing us any nearer to a definite "rule of faith" it is hard to say. Those who accept a religious faith as a rule accept its principles as a law beyond cavil; those who enter a military service accept its rules as absolute, whether they agree with them or not; but a profession is neither a religion nor an army under martial law, and the difficulty of definite written rules is enormous. If a man joins a club or society he is assumed to subscribe to all its rules and regulations, and if he knowingly breaks them while still a member he is obviously acting dishonestly and immorally; but the rules of a society such as are set forth in Mr. Butler's fourteen laws are some of them in themselves really not immoral, unless in the case of one who pretends to adhere to them and yet breaks them. For instance, it is very wrong for a member of an architectural professional society, one of whose rules is a minimum scale of fees, to break that (or for the matter of that any other rule) by working for reduced fees. But a man who never joined such a society is in a different position. It must be left to his own good sense to say whether it is fair, right, or moral to undercut his fellows. On the other hand, other of Mr. Butler's rules are so elementarily immoral as to need no formulation in the words of a rule. It would be almost like a newly established Parliament proceeding, as its first duty, to enact a law against theft or highway robbery. Of such a type is the prohibition No. 9, "To injure falsely or maliciously, directly or indirectly, the professional reputation, prospects, or business of fellow-architects." It is so wide and so obvious as to be superfluous. If an architect, a member of an architectural society, is guilty of such conduct the members have the remedy that the members of any club have, namely, to expel him. If the delinquent is not a member, then those aggrieved have precisely the same remedy, no more and no less, than "the man in the street" has at common law against another man in the street. A number of the fourteen rules come under this head, others again, such as the prohibition No. 1, "To engage directly or indirectly in any of the building trades, except as an owner," is, on the other hand, a rule that can only be enforced amongst the members of a society. If an architect is not a member of a society composed of other architects, who look to him for the faithful observance of rules made for their common good, then there is nothing *per se* immoral in his undertaking to design and build a house or a church for a client for a lump sum. This goes at the root of the whole difficulty. In most social clubs, and societies, there is a general rule reserving to the members the right to expel any member who, in the club or out of it, commits any act unworthy of a member of the club. In other words, the good sense of the members of the club is relied upon to preserve the club from dishonour. To attempt to codify the possible cause of dishonour would be to catalogue the sum of human failings.

But we must not be taken as either decrying this most laudable attempt to codify the causes of plain offence or professional immorality, still less to dispute the great advantages of very stringent rules, and still more stringent enforcement, in professional societies, but rather to point out that some faults are so plain and obvious that any society or body which did not take serious and drastic note of them was, or should be, in a state of decay, while others are so narrowly professional that they could only be enforced within the ranks of a society or gathered body.

While we have been somewhat critical, and more than sceptical in regard to the suggested rules laid down by Mr. Butler, we freely recognize that no one hitherto has made a bolder, simpler attempt to codify the professional laws of usage and right amongst architects than Mr. Butler in his very exhaustive and able paper. While we may disagree with the route or methods by which he hopes to attain certain of his objects, we cordially applaud his effort, and so far as the ranks of the Society for which he speaks, or any kindred body are concerned, we say the rules constitute an admirable basis for a code. The great thing before the architectural profession is to get all its members into some body which has disciplinary control over them and is able and willing to exercise it.

In the course of his paper, Mr. Butler shows that he has gone very deeply into the question. He has studied custom in other professions, and the question of remedy being practicable, the utility of a board of professional control, the relations between architects and the public, the qualifications for the practice of architecture, and the relations of the architect to his client, to the contractor, to the profession, and to the public.

In view of the action of the R.I.B.A. over the registration question and the fusion of that body with The Society of Architects, one cannot be surprised, says the *Building World*, that to the general public the profession of architecture should appear to be so unimportant. This is reflected in the manners and opinions of the times in a dozen different ways, but it is probably most frequently shown in the utter indifference of the press to matters architectural, and even more so by the ignorance and unconcern of the average pressman as to who designed any old or new building. This was brought home to us recently in a case which forms a concrete example and which is by no means an isolated one. About a fortnight ago we had some dozen reports sent in of the consecration of the new church of St. Peter, Loughborough. There were full accounts of the history of the founding of the parish and church, of the efforts made to raise funds ; there were reports of the service and of the sermon ; the church was described in good, bad, and indifferent manners ; there were lists of ornaments and gifts, and the donors' names were duly recorded. The cost was also given ; the inscriptions on the various gifts and the makers' name reached us, and so did the names of the building committee ; but we looked in vain through every report for the names of the architects. Nobody appeared to be interested in them in the slightest degree. The same thing happened in the case of laying the foundation-stone of the new aisle of St. Mary's, Nottingham, only in this case we happened to see a good photograph of the ceremony, and at once recognized the features of Mr. Temple Moore in a prominent position.

ARCHITECTS AND DISCIPLINE.

"Some dissatisfaction exists among architects inasmuch as the profession exhibits a lack of general organisation. As far as we understand the question several professional societies are in being, but there is no general gubernatorial body exercising disciplinary powers over the profession as a whole. There seem to be no rules regulating competition, no general scale of charges, nor is there any control over what may be euphemistically termed the unattached practitioner, that is, the architect who is not hall-marked. The Society of Architects is moving to obtain a better state of things, and they seem agreed that what is required is a statutory system of registration. By way of a beginning the Society proposes that there should be a general board of professional control composed of representatives from all the architectural societies in the kingdom to exercise powers analogous to those possessed, say, by such a body as the General Medical Council. This proposed body would have no power to interfere with internal powers of the existing associations, but its primary object would be to draw up a code of ethics to be binding upon the profession. These aims are commendable, but if the profession is to be incorporated the surveillance will have to be exercised in a thorough manner, for with the failure of the last Dental Act before us we can imagine things far less improbable than that in a few years the number of qualified, or registered, practitioners will be out-numbered by men possessing no qualifications save an aptitude for pushfulness."—*The Globe.*

Mr. Ernest J. Dixon, A.R.I.B.A., the Hon. Sec. Guild of Architects' Assistants, in a letter to *The Globe*, says, referring to the above, the manner in which they accentuate the necessity for thorough surveillance, if the proposals for the registration of architects are to prove successful, is thoroughly justified. The manner in which the architectural profession has dealt with the matter leads one to doubt whether the necessary surveillance is forthcoming. The Society of Architects and the Royal Institute of British Architects have recently been engaged in considering proposals involving the amalgamation of these two bodies for the purpose of ruling the architectural roost. Their combined membership is about 5,000; the Institution of Civil Engineers and the Surveyors' Institution are also largely engaged on architectural work, and together number about 12,000. The latter were not consulted in a proposed attempt to run a section of their business by outsiders. In the face of this enormity, the common sense of the premier architectural body, which had long lain dormant, rose in revolt and threw over the proposals for amalgamation. This overthrow has led The Society of Architects to return to a former position and take up the more practical proposal of a board of professional control. He goes on to say that proposals have been made by the Guild of Architects' Assistants for the inclusion of the interests of architects' assistants and the surveillance of pupils in the proposed Bill for the Registration of Architects. None of the published proposals of The Society of Architects or the Royal Institute of British Architects contain any reference to the architect's assistant, who forms the large percentage of their membership. The latter is fast asleep, and the registrationists are busy singing his lullaby. The need for the inclusion of the interests of the architect's assistant in the proposed measure is to be found in the fact that the services of an Associate of the Royal Institute of British Architects can be obtained for the sum of 35*s.* to 40*s.* per week.

The Travelling Studentship, 1912.

Four sets of designs were received from Students of the Society in competition for a Design for a Town Hall, and the Council have awarded the first place and the prize to Mr. Frank Morrell-Maddox, of 44, Malvern Street, Burton-on-Trent.

The drawings are on view at the Society's premises, and can be seen during the evening by those who are unable to do so during office hours.

A criticism of the designs will be published in due course, together with a reproduction of the winning design.

Visit to the London Aerodrome.

The Institution of Municipal Engineers have arranged for a meeting to be held on Wednesday, June 12th, 1912, at the London Aerodrome, Hendon, N.W. (by the courtesy of Mr. C. Grahame-White and the Directors of the Grahame-White Aviation Co., Ltd.), at 2.45 o'clock, when the following papers will be presented for discussion: "The Structures of the Future in Relation to Aviation," by Horace Cubitt, A.R.I.B.A., P.A.S.I. (Member). "Some Suggestions for Bye-Laws and Regulations in Relation to Aviation," by B. Wyand, Secretary of the Institution. The discussion will be open, and many prominent engineers (other than Members of the Institution) and Aviators have signified their intention of taking part in it. Members of The Society of Architects and their friends (including ladies), are by the courtesy of the President and Council of the Institution of Municipal Engineers invited to participate in the meeting. Admission to the Aerodrome will be by ticket only, and tickets, price 1*s.* each, may be obtained from the Secretary of the Institution, 39, Victoria Street, London, S.W. Tickets and copies of Papers to be presented will be forwarded as soon as the latter are in print.

The Annual Dinner.

THE Twenty-eighth Annual Dinner of The Society of Architects was held on April 26th, at the King's Hall, Holborn Restaurant. THE PRESIDENT (Mr. Geo. E. Bond, J.P.) was in the Chair, and amongst those present were :—

Mr. Thomas Adams (Town Planning Department Local Government Board) ; Mr. Greensill Allen, Mr. B. C. Andrew, St. Austell (Local Hon. Secretary) ; Mr. A. A. Atkins, Mr. H. S. Bagshaw, Mr. Bernard Baines, Mr. Thos. Baines (Hon. Solicitor) ; Mr. C. W. Ball, Member, Southsea (President, Quantity Surveyors' Association) ; Mr. W. Balmain, Mr. W. Banks, A.M.INST.C.E. (City Surveyor, Rochester) ; Mr. R. Banks-Martin, J.P., Mr. W. B. Barnard, Mr. H. Arthur Bartlett (President of the Institute of Builders) ; Mr. J. Arscott Bartrum (Master of the Tylers' and Bricklayers' Company) ; Mr. R. D. Batchelor, J.P., Mr. E. Bates, Mr. Ernest Beal, Mr. Eugene C. Beaumont (Past Member of Council) ; Mr. P. M. Beaumont, A.M.INST.C.E., Member of Council (Diocesan Surveyor, Maldon) ; Mr. A. Douglas Bell, Alderman E. A. Billinghurst (Mayor of Chatham) ; Mr. J. E. W. Birch, Mr. E. H. Blake, F.S.I., Mr. Geo. E. Bond, J.P. (President) ; Mr. H. P. Boulnois, M.INST.C.E. (Chairman of Council, Royal Sanitary Institute) ; Mr. J. A. Bowden, Mr. C. Russell Brown, Mr. W. Brown, Mr. C. McArthur Butler, F.C.I.S. (Secretary) ; Mr. J. H. Champness, Mr. H. C. Chevalier, Mr. Max Clarke, F.R.I.B.A., Mr. C. D. Collins, Mr. L. A. Cooper, Mr. J. B. Corby, F.S.I., Member of Council (Mayor of Stamford) ; Mr. James Cornes, Mr. F. T. Coupland, Mr. W. V. Coupland, Mr H. T. Cover, Mr. E. N. Craig, Mr. W. Cuckney (Borough Accountant, Chatham) ; Mr. John Darch, F.S.I., Mr. R. C. Davies, J.P. (Past Member of Council), Chester ; Mr. S. Everard Davies, Mr. C. Day (Borough Surveyor, Chatham) ; Mr. Deards, Mr. Walter Dewes, Mr. A. Dixon, Mr. Chas. Dunch, Mr. T. H. Dunch, Mr. J. Herbert Dyer (British Fire Prevention Committee) ; Mr. W. Egerton, Erith ; Mr. G. Ellson, Mr. C. W. English, Mr. J. G. Ensor, Mr. T. Jay Evans, Mr. J. R. Featherby, J.P., Mr. W. Fenn, Mr. Edward Forshaw, Burton-on-Trent ; Mr. Frederic Foster, Coventry ; Dr. A. Freear, Mr. H. Freyberg, F.S.I., Mr. J. B. Fulton, F.R.I.B.A., Mr. E. W. Garnham, Mr. F. Gayer, Mr. J. S. Gibson, F.R.I.B.A. (Past Vice-President., R.I.B.A.) ; Sir G. Laurence Gomme (Clerk of the London County Council) ; Mr. A. D. Greatorex, M.INST.C.E., Member (President of The Institution of Municipal and County Engineers), West Bromwich ; Mr. T. R. Greig, Mr. Gilbert A. Harrison, Oxford ; Mr. N. W. Harrison, F.R.I.B.A., Oxford ; Mr. G. W. Hart, Mr. J. M. Hatfield, Mr. P. G. Hayward, Mr. C. E. Head, Mr. William Hoe, Mr. J. S. Holliday (President of the London Master Builders' Association) ; Mr. T. Hooper, Mr. Hughesden, Mr. Hulford, Mr. R. A. Jack (Past Member of Council) ; Mr. T. E. Lidiard James, F.R.I.B.A., Mr. A. R. Jemmett, F.R.I.B.A., Mr. J. Gwyn P. Jepps, Mr. H. Llewellyn Jones, Mr. L. A. Atherley Jones, K.C., M.P. (Hon. Member) ; Mr. W. H. Lawrence Keay, Mr. A. P. Killik, Mr. W. E. Killik, Mr. J. A. King, Mr. J. Wolff King, Mr. Charles E. Kirby, Mr. Edmund Kirby, Mr. Walter Kirk, Mr. G. L. Lambert, Mr. G. H. Leavey, Mr. H. Leoni, Mr. Edgar M. Leest, J.P. (Past Member of Council), Devonport. Col. F. S. Leslie, R.E. (Past Vice-President, Hon. Secretary) ; Mr. A. S. R. Ley, Mr. Richard B. Ling, A.R.I.B.A., Mr. R. G. Lovell, A.R.I.B.A. (Member of Council), Eastbourne ; Mr. Ian MacAlister, B.A. (Secretary of the Royal Institute of British Architects) ; Mr. Wm. Mackay, Mr. J. Graham Mallett, Mr. Mansell, Mr. S. J. Marshall, Mr. Herbert W. Matthews, Mr, Wm. H. May (Member of Council), Plymouth ; Mr. R. H. J. Mayhew, Mr. G. M. McCorquodale (Past Member of Council) ; Mr. J. H. McKilliam, Mr. H. Metcalf, Mr. Rueben Metcalf, Mr. G. A. T. Middleton, A.R.I.B.A. (Past Vice-President, Hon. Librarian) ; Mr. C. G. Miller, Mr. E. Monson, J.P., F.R.I.B.A., Mr. E. C. P. Monson, F.R.I.B.A., F.S.I. (Vice-President); Mr. Geo. Neaves, Mr. G. H. Paine (Member of Council); Mr. Edward J. Partridge, F.S.I. (Hon. Treasurer); Mr. C. Stanley Peach, F.R.I.B.A. (Member of R.I.B.A. Council); Mr. Wm. Petch, Mr. J. H. Pitt, F.S.I., Mr. J. Presnail, Mr. E. Procter, Mr. J. Reed, His Honour Judge Rentoul, LL.D.; Sir Geo. A. Riddell (Hon. Member); Mr. C. Rowley, Mr. J. W. Rowley, Mr. E. E. Ryder, Mr. Edwin J. Sadgrove, F.R.I.B.A. (Vice-Chairman of the Practice Committee); Mr. J. W. Sanderson, Mr. M. T. Saunders, The Rt. Hon. Lord Saye and Sele (Hon. Member); Mr. A. E. Scanes, Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (Dublin); Alderman C. E. Skinner, Mr. S. C. Skinner, Mr. Henry C. Smart, Mr. H. Smith, Mr. C. K. Tatham, Mr. F. G. Taylor, Mr. H. Guicharde Todd, F.S.A. (Scot.); Mr. John Todd, Mr. H. Tripe, Mr. Percy B. Tubbs, F.R.I.B.A. (Vice-President); Mr. B. R. Tucker, M.R.SAN.INST. (Chairman of the Finance Committee); Mr. C. Tuff, J.P., C.C., Mr. T. Wallis, Mr. William E. Wanmer (Assistant Secretary); Mr. F. J. Westwood, A.R.I.B.A., Mr. J. F. Wetherell, Alderman H. F. Whyman, Mr. H. Wilkinson, Mr. Walter C. Williams (Mayor of Southwark); Mr. W. B. Willmot, Alderman Willis (Deputy Mayor of Rochester); Mr. Blankley H. Willis, Major E. B. Willis, Mr. Herbert W. Wills, A.R.I.B.A.; Mr. A. Needham Wilson, A.R.I.B.A. (Member of R.I.B.A. Council); Mr. F. R. Yerbury (Secretary of the Architectural Association); Mr. A. Young, Mr. F. C. Moscrop Young.

The loyal toasts having been duly honoured, SIR G. LAURENCE GOMME proposed "The Houses of Parliament." The public, he said, were not quite sure which sort of House they preferred. There was a House of Lords which was principally noted at the present time for what it might not do and a House of Commons notable for what it did not do. The two Houses were extremely fond of grandmotherly legislation, and yet neither of them admitted their grandmothers to assist in that legislation. But whatever views they might individually possess and whatever experiences the two Houses had undergone during the last few years, while they wanted the two Houses to go on, they quite understood that they could not proceed quite in the old way. Englishman, whatever their political views might be, respected the House of Lords and the House of Commons as at present constituted. They were not sure whether the House of Commons was a House of delegates or a House of representatives, they were not quite sure what the House of Lords might or might not do, but they were quite certain that both would carry out the duty which the country laid upon them in the best possible way, and the representatives of those Houses present, the Rt. Hon. Lord Saye and Sele and Mr. Atherley Jones, would do their share in bringing about the healthy and necessary legislation which the country demanded.

THE RT. HON. LORD SAYE AND SELE (Hon. Member), responded briefly for the House of Lords, and concluded by congratulating the Society upon having kept Mr. Bond in the Chair. He hoped they would continue the "bondage."

MR. ATHERLEY JONES, K.C., M.P. (Hon. Member), responding for the House of Commons, said, that in every assembly of Englishmen, the toast of "The Houses of Parliament" was received with fervour and sympathy; not necessarily because they believed in it as at present constituted, but because it was regarded as a great permanent political entity which had in the past made the country what it was, and because they believed, despite the vicissitudes of party politics that it would still serve the interests of the nation. With regard to the House of Lords, if he might say one word about that august assembly, they were now engaged in the process of reconstruction ; he believed, at the present moment, they were taking out the quantities. He had nearly qualified for the position of Father of the House of Commons, and having served in nine Parliaments was disposed to think that the present one compared favourably with its predecessors. He thanked them for the cordiality with which they had received the toast, and looked forward to being still their guest in years to come, whether they remained as an independent body or whether they became associated with another great institution. He hoped the latter consummation would be fulfilled, and that the high attainments of The Society of Architects would be maintained by its members in their association with the other body.

His Honour Judge Rentoul, ll.d., in proposing the toast of "The Society of Architects," said, he had always taken a great interest in the Society from the fact that it came into existence the year he became a barrister, so that their careers were, so to speak, simultaneous. With the toast he connected their craft generally, and especially the name of their distinguished President, Mr. Geo. E. Bond. He had the pleasure and honour of presenting to Mr. Bond the Society's Gold Medal, as a memento of the high position he had occupied during the last four years, and which he would no doubt highly prize, not for its intrinsic value but for what was more important, the expression of strong approbation and a seal, so to speak, put upon the honour already accorded him by electing him so many times in succession to the Chair. With regard to the profession of architecture, an architect, like a poet, was born, not made, and as a poet dealt with commonplace words and put them in such a position and in such a way that everyone was thrilled, so the architect working in bricks and stone and marble instead of words, raised a building which was a poem in itself. He was, he thought, himself capable of carrying out the duties of many callings ; he knew how a doctor, a clergyman, and a lawyer went about their work, but he had never been able to understand the brain of an architect, nor how any man could have fully grasped the requirements of the Law Courts in the Strand. They laughed at the Law Courts, and that was quite right from an æsthetic point of view, but they must not forget that the unfortunate architect had to construct 950 separate rooms all communicating with one another in the very smallest possible space, and therefore beauty and everything else, even the acoustic properties, was sacrificed to speed in getting from one place to another. It had been said that they could not see a city for its buildings, which meant that the beauty of its architecture could not be fully appreciated on account of the proximity of other buildings. It seemed to him that many a man got the name of being an architect when he was only a mere copyist.

The true architect was surely one who evolved something from his own brain, who created something new, and which he could say was entirely his very own. The whole, as Euclid told them, was greater than its parts, and so it was not one single part of a building which made it beautiful, but the whole taken together. He had been told that one of the common dangers an architect fell into was of doing something towards the end of his work which spoilt the symmetry and beauty of the whole. What was it brought the lands of Greece and Italy so near to them ? It was not commercialism nor the work of the agriculturist, but the imperishable works of the architect.

Mr. G. E. Bond, in reply, said, it was with great pleasure that he was once more able, conscientiously to congratulate his fellow members upon the continued progress made by The Society of Architects. For many years past their Annual Reports had placed on record a steady and consistent increase in its membership, and also a corresponding development of its financial position, and, notwithstanding the suspension of their activities during several months, in honourable conformity with the spirit of an Agreement entered into between the Councils of the Royal Institute and of the Society—a suspension which had seriously handicapped the Society—their progress during the last eighteen months had beaten all previous records. This might to some extent be attributed to the fact that they entered into possession of their Headquarters in Bedford Square, in September, 1910, a building which stood in one of the most convenient and readily accessible spots in London, and afforded in addition to the accommodation required for their official needs many of the comforts and conveniences of a Social Club, and the Council fully anticipated still further large additions to the ranks, as these advantages became more generally known and appreciated. Numerically and financially, they were advancing very rapidly year by year, and the strong and powerful position to which the Society had attained spoke well for the popularity of the cause, with which it had for so long been identified.

They were now entitled to ask what progress he had to report in regard to the Registration movement since their last Annual Dinner, and in reply, he was obliged to say, none whatever ; and as this might to some extent be due to his personal action, he was quite prepared to take the blame upon his shoulders ; although, at the same time, he might complain of the fact that in these days of unrest, the path of a mediator was a very hard and difficult one. The subsequent approval of his action by his colleagues on the Council and by his fellow members was an assurance that they believed his action to be prompted by an honest conviction that he was working towards the advancement of the cause they all had at heart ; and he was still convinced that the course he adopted was (had paltry pride and prejudice not to be taken into account), the only one offering any promise of ultimate success, consistent with the Society's previous expressions of opinion.

For more than a quarter of a century, as pioneers in the Registration movement, the Society had stood and worked alone, in the face of the most persistent and unfair opposition, in which their opponents brought to bear every conceivable weapon of abuse, irony and ridicule, but never once that of practical argument, and in the autumn of 1910, the Society had so far advanced that they had just completed a new revision of their proposed Registration Bill, and had made the necessary arrangements for its immediate presentation in the House of Lords. To thoroughly understand the position of affairs at the moment it was, however, necessary to recognize the fact that an entirely new situation was created when the Council of the Royal Institute pledged themselves to adopt a Registration policy, for during the whole course of the Society's existence they had been expressing the opinion that such was the duty of the Royal Institute, and that should they take up the question and submit a fair and reasonable Bill, the Society would be prepared to loyally support them in their efforts to secure its passage through Parliament. He himself made that statement more than once from that Chair. Under the circumstances three courses were open to the Society, firstly, to have their Bill presented at once as arranged; secondly, to suspend operations for a time and await the production of the Royal Institute's Bill; and thirdly, to endeavour to open negotiations with the Royal Institute at once, with a view to the production of a Joint Registration Bill. Of these, from a tactical point of view, the first was a reasonable one, for in all probability the Bill would, in the House of Lords, have reached the Committee stage and its opponents would then have been compelled to formulate their opposition, chiefly by way of proposed amendments, and whatever the result, matters would thereby have been materially advanced. The situation would have been clearly defined, and they would then have been able to accurately locate the position, and gauge the actual fighting strength of the opposition; but in the face of the Society's previously expressed opinion, he felt it was a course they could not honourably follow.

The second course would have been extremely foolish, for they might wait years for the production of the Royal Institute's Bill, and then find that in the interests of the Society, and of all others concerned outside the ranks of the Institute, they would be then compelled to oppose it. As a matter of fact, subsequent events proved that they were right in this assumption, for the claim put forward by the Royal Institute's representatives, in regard to the composition of the Registering and Adminstrative Council, under the Bill, was one which the Society, as an independent body, could not then, nor ever would agree to, and this was what led to the suggestion for amalgamation, as a way out of the difficulty; because it was recognized by the responsible leaders of both bodies, that neither could possibly carry a Bill through Parliament if opposed by the other.

There remained the third, and what he submitted was the only sensible and honourable course, and this he adopted. On November 23rd, 1910, he wrote Mr. Stokes a personal letter, pointing out very fully his views on the situation, and suggesting a joint meeting of representatives to consider it, undertaking, should the suggestion be favourably received, to forward an advance copy of the Society's revised Bill, in order to facilitate discussion.

Mr. Stokes and the members of his Council whom he consulted were favourably impressed by the proposition, with the result that a series of Joint Meetings extending over twelve months were held.

While for obvious reasons, he could not speak as to the qualifications of the Society's representatives on that Joint Committee, he ventured to suggest that among those who represented the Royal Institute, were some of the most astute, practical and far-seeing minds in the profession, perfectly capable of protecting the interests of the Institute they represented, and in whose keeping its honour and dignity were perfectly safe; and who, while keeping their eyes definitely fixed upon the object they had in view, unhesitatingly admitted the justice of many of the Society's contentions, and met them in a broadminded spirit with a view to finally settling a very vexed question. Obviously, only those engaged in the actual discussions could possibly know all the reasons which led to the adoption of the scheme ultimately evolved, which included a fusion of the two bodies; but that it was a fair and reasonable one, was he thought, evidenced by the fact that the opponents on both sides objected to it for exactly the same reason, viz., that they were making very great concessions and receiving very little in return.

Most of those present know how the proposal was received, how after being approved by the Councils and members of both bodies, a legal hitch occurred in regard to the power of the Council of the Royal Institute to enter into the agreement, how its Council immediately set to work upon an amendment to the Charter with a view to surmounting that difficulty, and how it was a second time submitted for approval, in a meeting at which about a seventh of the Institute's members were present. This meeting was obviously packed by an organized section of the Junior members, and the scheme was referred back, ostensibly upon a side issue about which the Society cared nothing; and by what was practically an adverse vote the twelve months' ceaseless thought and study given to the subject in all its bearings by the duly appointed representatives and nominal leaders of the Royal Institute was rendered of no avail and their broadminded and far-seeing policy left in confusion; and this in the face of their President's remarks at the Society's last Annual Dinner, that, "if there is any honour in the Royal Institute the agreement will be carried out." Well might it be said that "defeat in some cases is more honourable and glorious than victory."

No great progressive movement was ever carried to a successful issue without some sacrifice; but the grand ideal of their leaders who aimed at nothing less than the establishment of that professional unity within one strong institution and under one banner, which would have rendered all ethical and educational reforms within their ranks much easier of attainment, and would at the same time have positively secured that unity of action in regard to Registration which is essential to success; was, apparently by some of the younger men in the profession, not considered worth even the sacrifice of a little petty pride; for with the arrogance which usually accompanies immature thought, they had no difficulty in assuming that they were perfectly justified in committing themselves to a wrecking policy before they had even heard the other side of the question. He was convinced that all thoughtful members of the profession were sorry and surprised to find that many members of the very class which had everything to gain and nothing to lose, under any scheme of Registration, had so readily allowed their vanity to be exploited, by two or three irresponsible individuals, whose egoism constituted their one and only claim to leadership in the matter.

The present position was an eminently unsatisfactory one, for he declared, without hesitation, the real voice of the Royal Institute had not yet been heard upon the question.

Further progress in regard to fusion was, under existing conditions, a very doubtful quantity; but in any case the Society were still prepared to continue negotiations with a view to the production of a Joint Bill. During the last few years a much more conciliatory spirit had existed between the Councils of the two bodies, and their recent meetings had done much to foster and develop that spirit. Whatever might be the ultimate fate of the subject matter under consideration, there would always remain that mutual appreciation of each other's honesty of purpose, in working for for what each conceives to be the best interests of the profession, and he sincerely hoped that it might be the pleasure of both, to work together in the future with perfect harmony, for the grand purpose of maintaining the honour, dignity and general standard of ability within the profession at the highest possible level.

Referring to the Gold Medal which had been presented to him, he desired to thank Judge Rentoul very sincerely for the very able and eloquent manner in which the presentation was made, and for his kind references to his (the speaker's) work and personality, and he would wish also to thank his colleagues on the Council for the kindly thought which prompted them to offer him that very tangible token of their appreciation of his small services. He assured them that the Gold Medal would always remain one of his most cherished possessions, not, as Judge Rentoul had already remarked, on account of its intrinsic value, but because it would always be to him an outward and visible token of their appreciation of his work and general conduct during the very trying and difficult period covered by the negotiations, to which it had been his not altogether pleasant duty to refer that evening.

Mr. Percy B. Tubbs, F.R.I.B.A. (Vice-President), in proposing the toast of "The Guests," said, the Society had always been singularly fortunate in having the company of distinguished and influential men on these occasions, and that evening was no exception. They had with them members of the House of Lords and the House of Commons, both Honorary Members of the Society, and he took that opportunity of thanking Lord Saye and Sele for the very practical interest he had taken in the work of the Society, particularly in regard to the Registration Bill. His Honour Judge Rentoul they were always glad to see and to listen to his humorous speeches. Mr. Leonard Stokes, the President of the Royal Institute, would have been with them, but as most of them knew, he was in Canada, assessing a very important architectural competition for the new Houses of Parliament in Winnipeg. He was sure they all regretted his absence very much, but they were fortunate in having other members of the Royal Institute Council with them, and he hoped they might take it as a sign that the friendly relationship which had existed in the past would continue, and that although the negotiations with the Royal Institute had not been successful up to the present, that they would be able to work together in the cause of Registration, which they all felt would be of enormous benefit to the architectural profession. The Society, like the Royal Institute, was pledged to a policy of Registration, and failing any agreement between the two bodies they would no doubt both work to the same end, but he personally felt that if they could become a united profession they would stand a very much better chance of getting a Bill through Parliament. He coupled with the toast the names of Mr. J. S. Gibson, F.R.I.B.A. (Past Vice-President, R.I.B.A.), and Mr. A. Needham Wilson, A.R.I.B.A. (Associate Member of the Council, R.I.B.A.).

Mr. J. S. Gibson, F.R.I.B.A. (Past Vice-President, R.I.B.A.), in reply, said, he was sure it had been a very great pleasure to all of them to enjoy the hospitality of The Society of Architects, and if permitted to say so, perhaps the greatest pleasure he had experienced was to listen to the very able, clear and concise speech made by Mr. Bond, in detailing the whole of the negotiations which took place between The Society of Architects and the Royal Institute, with a view of finding some plane upon which both Societies could work in amity, to bring them together, as undoubtedly they would have to be brought together, for the common purpose of alleviating the lot of the architect, which really was at the bottom of the whole movement. He would be very sorry to think for one moment that the whole of the work which had been done by the delegations from each of the Societies would be lost. He could not imagine that having gone so far it would be impossible to go further. All things were possible to youth, and their young men, when these proposals were put before them, knowing so much better than the grey-haired old fogies, incontinently referred the whole matter back. He thought, however, that time would tell its tale, and that he and his friend Mr. Bond, were young enough to be found working together for the Registration of Architects, and he was certain that it would be with a united body of architects behind them who would give them entire support. He thanked them heartily for the way in which they had received the toast, and expressed his great pleasure at being present.

Mr. A. Needham Wilson, a.r.i.b.a. (Associate Member of the Council, R.I.B.A.), who also replied, said, he occupied a somewhat awkward and ambiguous position in being present that evening as an Associate of the Royal Institute in view of recent events. He heartily concurred in Mr. Gibson's remarks, and yielded nothing to what had been said in thanking them for the most excellent entertainment which had been afforded them. He considered that The Society of Architects had occupied a perfectly logical position, and had pursued their objects in a perfectly open and fair manner, they had for many years adopted a policy which had borne fruition, and had seen the Royal Institute adopt a policy of Registration themselves. It had been for many years his ideal to see the whole profession united for the purpose of bringing to an issue the great question of Registration, which was of paramount importance. In pursuance of that policy he had endeavoured in his humble way to bring the matter to a successful issue, and he had been severely blamed in many quarters for the attitude he had adopted, but he would like to say that he was absolutely unrepentant. As a Member of the Council of the Royal Institute, and serving on the Committee which was considering the matter, his lips were more or less sealed, but he could confidently say that he would continue the policy he had adopted uninfluenced in the slightest degree by any criticisms, and anything he could do to further the end they had in view would be done.

An excellent programme of music and other entertainment was provided by Miss Beatrice Jeffreys, Miss Ada Wheeler, Mr. Lyell Johnson, Mr. Ben Lawes, and Mr. Cyril Weller.

Regent's Quadrant Competition.

Members have probably seen the announcement in *The Builder* of the competition which the proprietors of that paper have instituted for a façade for Regent's Quadrant, which, while accepting the present façade as a fait accompli, will continue it in such a manner as may not be open to the criticisms of the retail tradesmen, for whom the premises are intended.

The further announcement has since been made that Messrs. Swan & Edgar, whose premises occupy a large part of the site, are prepared to take an active interest in the matter, either by giving an additional premium to those offered by the proprietors of *The Builder*, or, "if practicable, a professional position which will enable the successful competitor to put his design into material form."

The problem, though a difficult one, calls urgently for a solution, reconciling commercial needs and interests with the architectural dignity of a city.

In view of the wide-spread interest that the competition has evoked, it has been decided to postpone the date for submission of designs to June 28th.

Registration and Personal Qualifications.

The Builder, in a leading article published in its issue of May 17th, says, of all the questions which will be brought to the front as the proposals for Registration take a more definite shape none seem to us of more importance than the method whereby it is, or will be, proposed to ascertain who is fit to be registered and who is not. Although it is no doubt permissible for any society to set up its own standard of efficiency and to make regulations for admission to its membership solely in accordance with its own ideas, as soon as it is proposed to make these regulations obligatory upon all who wish to enter the profession of architecture the position seems to be somewhat altered. The whole question assumes a wider and more serious aspect, and must be considered from the broadest possible point of view.

If we try to consider it in this way one of the first reflections that must occur to us is that it is advisable to begin at the beginning, and so arrange our methods as to encourage the right type of man to enter the profession and to discourage the wrong type. This appears to be the first essential. We cannot make good architects out of bad material. However good a system of training and of examination may be, it will never produce an architect in the best sense of the word unless we have the right material to work upon. We should view with considerable suspicion any method of Registration or examination which ignored this essential point or relied entirely upon setting up a barrier at the end of the student's career which the unfit would find it extremely difficult to pass without making any effort to discourage them from wasting their time in the endeavour to do so.

Apart from the injustice and waste of energy involved, it seems only reasonable to suppose that if only those who had the necessary personal qualifications were allowed to enter the studentship stage it would be far easier to arrange a satisfactory system of education and to frame a reasonable examination or other method of ascertaining whether they have acquired sufficient technical knowledge and skill to justify their Registration.

It is so much easier to teach or examine in architecture or to discuss it with those who have a natural instinct for it than with those who have not. The whole question is simplified if a barrier beyond which the personally unsuitable cannot pass is erected at the beginning of the student's career rather than at the end.

It should hardly be necessary to insist upon so obvious a truism, yet it appears to be overlooked by our present methods, which permit a student to spend considerable time in the profession before finding out that he has not the special qualifications and aptitudes necessary to genuine success, and which also permit and even tend to encourage the idea that general ability and good education are all that is required.

Neither should it be necessary to dwell on the unfortunate fate of the square peg in the round hole—the man of first-rate ability and high ambition who has been allowed by an inadequate system to drift into a false position and to realize when too late that the real success he might have achieved in some other more suitable profession is beyond his reach in architecture.

From every point of view it appears essential to make more strenuous efforts to obtain the right material from which to fashion the architect of the future. A process of selection should be instituted, and this process, we think, cannot begin at too early a stage in the life of the student. In fact, no student ought to be encouraged or even allowed to propose to be an architect or to present himself for the Institute Preliminary Examination unless he has given proof of special taste and aptitude. That so many without these tastes or aptitudes do present themselves suggests a lack of intelligence or organization on the part of those responsible for their education up to this point, and the fact that so many are permitted to pass is the defect in our methods to which we draw attention.

We imagine that all headmasters of secondary or public schools would be perfectly competent to give a reliable opinion as to the aptitudes of all boys leaving their schools, and that unofficially a good deal of advice is, as a matter of fact, given by them on the choice of a career.

If it would not be possible to insist that every applicant for admission to the profession should produce a certificate from his headmaster or college tutor that he is a fit and proper person, at least some definite report or opinion might be asked for which would enable a correct judgment to be formed as to his general tastes, aptitudes, and type of mind.

In addition to this it might be well if some more definite process of selection was instituted in the profession itself.

The idea is not a new one. It is, we believe, adopted by the Admiralty with reference to all candidates for admission to the Navy, who have to satisfy a board of admirals, by personal interview, that they are the material out of which the right type of officer can be made before they are allowed to take the first step towards this career.

Although the same method might not be exactly applicable to candidates for admission to the architectural profession, there seems no reason why something on the same lines should not be attempted—possibly a special preliminary school from which no student would be allowed to pass without the certificate of a board of qualified judges that he had the necessary personal qualifications. The period of observation need not be long, and those failing to satisfy the board within this period would be saved from wasting further time in an unsuitable profession.

Although we quite see the desirability that every candidate for the profession should have received a good general education, we think it is of equal or even greater importance that he should possess the requisite personal qualifications without which all knowledge and all technical training is a vain thing.

If Registration is going to impose any test of natural ability as a bar to the entrance of the profession—and unless it does so its usefulness might perhaps be questioned—this test should surely, in fairness to the student, be applied at the very beginning of his career, and it should not be beyond the scope of professional ingenuity to discover a satisfactory method of applying it.

Students' Section.

The second "Smoker" of the Session was held at Headquarters on May 19th, the Chairman of Committee, Mr. H. V. M. Emerson, A.R.I.B.A., being in the Chair.

Amongst those who contributed to the entertainment were Mr. H. R. Plumer, Mr. W. Boyce and Mrs. Boyce, Mr. B. Sheffield, Mr. Harry Nash, Mr. R. G. Gowers and Mr. A. T. Davies. There was also an exhibition of drawings, sketches and photographs, sent in competition, or lent for the occasion. A very pleasant evening was spent, and as these social gatherings become more widely known and form an established custom they will do much to promote that friendly intercourse amongst the students which is so much to be desired.

Town Planning Conference.

Mr. E. J. Sadgrove, F.R.I.B.A., and Mr. G. A. T. Middleton, A.R.I.B.A., the Society's Official Delegates to the Conference in London in April, report that many important matters were discussed, but that none of these had any particular architectural bearing. Questions relating to architecture are, however, in their opinion, bound to arise at future Conferences, and it would consequently be wise to keep closely in touch with the movement, in order that the claims of architecture to consideration in devising Town Planning Schemes shall not be over-borne by those of surveying and engineering. Such Conferences as that just held, which was well attended by representatives from all parts of the country, must have considerable influence in forming public opinion.

Indian Builders and Public Works Architecture.

Mr. E. B. Havell, in a paper read at the Indian Industrial Conference, Calcutta, in December last, says the important place which the building industry holds in the economy of every civilized country has not yet been sufficiently realized in India, yet it embraces nearly all the most important handicrafts, and as in every country, its condition is an index of economic progress and of every kind of artistic development. Architecture has been justly called the noblest of all the arts; the history of every civilized state is written in it, and in its objective reality it contains a record of national culture and material progress which is generally much more reliable than that given by pen or printer's type.

Reliable statistics of the present condition of the Indian building industry there are none: public opinion on the subject is wholly uninformed and, guided by long departmental tradition, ignores its very existence and only seeks for improvements which can easily be imported direct from Europe.

All authorities agree that in times gone by, Indian builders have done great things. Even those who depreciate Indian sculpture, painting and music, will generally admit the genius of the Indian architect. But it is a part of those erroneous and prejudiced views of Indian art which are so commonly held both by Anglo-Indians and educated Indians to give most of the credit for the triumphs of Indian master builders to the Moguls. Centuries before the Moguls came to India, Hindustan was famous for her master-builders, and it was to the broad-mindedness and statesmanship of Akbar in attracting to his Court all the skilled master-builders of Hindustan that the greatness of Mogul architecture was due.

In their raids upon India, before the time of Bubar, it was the common practice of the Muhammadan invaders to take back Indian artisans to help in the building of their Mosques. One of the most reliable of Muhammadan historians, Alberumi, who visited India in the eleventh century, was amazed at the skill of Hindu builders, especially in the construction of bathing tanks. "In this" he says "they have attained to a very high degree of art, so that our people (the Muslims) when they see them wonder at them and are unable to describe them much less to construct anything like them."

Although the Moguls brought into Indian architecture notions of greater spaciousness and decorative simplicity to which the Hindu builders readily adapted themselves, the new development of it under Mogul rule came not from the teaching of Muhammadan builders but because they directed the skill of Hindu builders into new channels. Mogul architecture is properly described not as specifically Muhammadan but as Indian.

Coming down to modern times we find the great historian of Indian architecture, Fergusson, referring to the India of his time as holding up an example to Europe. "Architecture," he said, "is in India a still living art, practised in the principles which caused its wonderful development in Europe in the twelfth and thirteenth centuries, and there consequently, and there alone, the student of architecture has a chance of seeing the real principles of the art in action." He declared that if only Indians could be made to take a pride in their own art Indian builders were quite capable of equalling or surpassing the great works of their forefathers. More recent writers, like Mr. J. L. Kipling, in the *Journal of Indian Art and Industry*, have given evidence to the same effect, and I myself can corroborate their testimony from many years observation in different parts of India, especially in the North.

I believe Fergusson's statement on the whole to be as true now as when it was written. I was very much astonished therefore to see that in a paper read before the East India Association, in London, recently.* Mr. J. Begg, the consulting architect to the Government of India, totally ignores the existence of Indian architects, complains of the "absence of any reliable source for the supply of capable assistants" in his work, and speaks of the Indian workman as being a complete master of one art only, that of scamping. "The arts of India," he added, "are dead or nearly so, and her crafts are little better." If, in the course of forty or fifty years, since Fergusson wrote, there has been such a deplorable deterioration in one of the most vital of Indian crafts, a full investigation of the causes which have led to it is imperatively needed. During all this time the Public Works Department has maintained a monopoly of the most important building operations in British India. The responsibility of the department in this matter is therefore very great, and if its methods or principles in the course of half a century have led to the practical annihilation of all the splendid traditions of Indian building, the remedy which Mr. Begg proposes, viz., the importation of more professional architects from England, clearly does not meet the case. He admits, however, that he has had less than ordinary opportunities for studying the conditions which prevail outside the scope of his own special duties. It would have been more judicious therefore if before he made statements of this kind with all the authority of his official position, he had tried to enlarge the range of his experience so as to come into touch with the many thousands of Indian master-builders and other craftsmen who still carry on the best traditions of Indian art, and who remain outside the range of his Department's operations, not because they lack skill or intelligence but because it refuses to adapt its methods to the conditions under which India has in the past, as Mr. Begg admits, produced some of the finest architecture in the world.

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* *See Vol. IV., No.* 46, *page* 362, *and Vol. V., No.* 51, *page* 111.

The Indian master-builder is an architect with as much pride in his profession as Mr. Begg himself. He may be illiterate, but Fergusson, who devoted forty years to the intimate study of Indian architecture, confessed that he had learnt more from him than from all the books he had read. Like any other artist he objects to work under conditions which deprive him of all initiative and opportunity for artistic expression, and which reduce the craftsman in India to an automatic machine for reproducing departmental patterns imported from Europe.

The commercialism which Mr. Begg deplores has only been brought into Indian architecture by the Public Works system, which ignores the art of the Indian master-builder and puts in his place the building contractor whose only interest is to extract from the public purse as much profit as he can. It is inevitable that such a system should demoralize all the craftsmen employed in it. The better class of Indian craftsmen will generally have nothing to do with it.

If the Consulting Architect were put on special duty to study the state of Indian art where it has not yet been contaminated by Western commercialism, I am confident that, like Fergusson, he would find a plentiful supply of the most able craftsmen and designers who would be quite capable of supplying all of India's architectural requirements if departmental rules which block their approach to the public service were reasonably modified to meet the conditions under which self-respecting Indian craftsmen are willing to serve.

The fact that these master-builders are generally illiterate was not an obstacle to their employment in the magnificent building operations of the Moguls—their greatest ruler and statesman, Akbar, was himself illiterate.

Nearly all the famous master-builders of Europe were probably as illiterate as they are, and it was not until 1646 that the antiquary, Elias Ashmole, together with Colonel Mainwaring were admitted into the English craft guilds as "gentlemen" freemasons. The distinction which is now made between an "Architect" and a "Builder" dates from this innovation. The "Architect" was a wealthy amateur archæologist who had made the grand tour in Europe: he sketched his architectural fancies on paper and employed the professional builder to knock their crudities into practical shape.

The introduction of this dilettantism with the practice of European architecture, the making of the master-builder a subordinate of the "gentleman" architect was the beginning of the decadence which overcame it a century afterwards. The introduction of the same system into departmental practice in India has brought about exactly the same results—the lamentable deterioration of all the crafts connected with Public Works architecture of which Mr. Begg complains. The more practical training which only within the last twenty years has been given to the English architect, and the better education of the builder have approximated modern architectural practice in Europe more closely to that which obtained in medieval times, but the modern school of professional architects has not yet established a reputation as great as that of the illiterate master-builder whose works are still the classical models for the whole of Europe.

When, therefore, Mr. Begg speaks of himself and his professional colleagues as being " a new breed of architects " in India, and only looks to the training of English educated Indians for supplying the professional assistants of whom he stands in need, he is treating the question from a European and departmental standpoint and ignoring the larger aspects, the public interest and the development of Indian art and industry, to the consideration of which he has evidently not given sufficient study. It would, no doubt, be somewhat inconvenient for departmental officials to spend their time in explaining their requirements to illiterate Indian workmen, and it might involve some sacrifice of educated " amour propre " to admit that in art matters the illiterate Indian craftsman may have something to teach the literate : but, after all, departments exist for the public, not the public for departments, and if it can be shown that departmental procedure is undoubtedly blighting the development of this most important Indian industry surely it is time for the department to move in a different direction—why should it be more difficult for professionally trained European architects to adapt the living traditions of Indian building to modern departmental requirements than it was for the amateur court officials who controlled the Mogul architectural works to make use of Hindu builders in carrying out Muhammadan ideas of building ?

It is one of the first principles of architectural practice in Europe that the designer should make use of any local tradition of construction or design. Why should this sound architectural tradition be discarded by the European architect in India where architectural and craft traditions are much stronger and more active than they are in Europe ?

The professional in architecture as in other branches of art, when he is sent to India is too apt to follow the groove in which he has been set by his European training, especially when he finds that Indian departmental procedure fits best with his special groove, and that his superiors are inclined to regard with disfavour any new departure which disturbs the traditional office routine. Mr. Begg's professional zeal is highly commendable, he wishes to inspire the Indian artizan with some of his own enthusiasm for " sound, honest, joyful work," which as he truly says is " the very foundation of a nation's progress in civilization. Then the crowds of Chinese carpenters and smiths, for instance, who have obtained a practical monopoly of their respective trades in Calcutta and elsewhere, would soon have to pack and go." But if he would change places with the Public Works artizan for a week or two, or try to share his feelings, he would soon discover the reason for the Indian workman's apathy and want of zeal. The official expert's pay, promotion and prospects are assured : if his subordinates do good work the credit for it is his, and if bad he can throw the blame on the inefficiency of his staff. But the humble Indian artisan who works out the foreign patterns of the official expert is entirely under the thumb of the contractor and Public Works subordinate. He has no power of initiative: he is not allowed to think if he would do so. He must obey orders and copy exactly the foreign patterns set before him whether they are good or bad, practical or unpractical.

Is it astonishing that under these conditions the Public Works artisan tries to scamp his work? That is only to say that he is human. The Public Works Department having by its own system of work demoralized the whole available indigenous labour supply in great Anglo-Indian cities like Calcutta has now recourse to Chinese carpenters and smiths in order to maintain a respectable standard of workmanship, and on account of their limited numbers they are able to dictate their own terms. Why is the Chinese a better workman than the lower class of Indian artisan employed by the Department? Because he has managed to maintain his status as a self-respecting independent craftsman. He is free to come and go as he likes, for there is always sufficient demand for his skill elsewhere. He never becomes, like successive generations of Indian workmen, the slave of the Public Works system, for as soon as he has made his little pile he departs to his native land and new comers with inborn traditions of free honest craftsmen take his place. If Mr. Begg would use the power of his Department for the benefit of Indian craftsmen he must first find the means of restoring to the Indian craftsman some real incentive for honest, joyful work, and greater opportunities for the exercise of his intelligence and skill. The Public Works Department, as Mr. Begg says, leads the way in Indian architecture. Unfortunately, I think, for Indian architecture, that is the case. But is it the right or the wrong way? Or is it only that some official experts make the mistake of supposing that the conditions which belong to their own somewhat narrow departmental experience must also apply to the general state of that much wider field lying outside the range of their departmental practice?

I find it hard to believe that, because Indian art has not yet made itself known to some official experts, it has come to a sudden and untimely death in the few years since I left India.

These authoritative semi-official announcements of the death of Indian art, which has been rather frequent of late, are, I think very misleading and much to be deprecated. My own experience has been that there is very much more vitality in it than is generally supposed, and that it responds very quickly to sympathetic treatment.

When I first went to Calcutta I was told by everybody that nothing could be done for art in Bengal, except to regularly import a little direct from Europe—the only plan still recognized by the Education and Public Works Departments. The indigenous art, it was said, was quite dead and past praying for. Nevertheless, I soon detected some signs of life in it, and now Bengal artists are leading all India. In the same way with Indian architecture the first thing to be done is to totally disregard all these semi-official rumours of its decease, and to start work on the assumption that it is very much alive.

It is, perhaps, too much to hope that the Public Works Department when the existence of a living architectural art in India is revealed it will at once remove the blockade which has acted so injuriously in the Indian builder's craft for so many years. And, unfortunately, the native master builder of the present day, having lost prestige and been deprived of opportunities of dealing with modern methods of construction on a large scale, would not perhaps be found at once capable of adapting his methods to modern European practice in building: though it is highly probable that a return to the simpler traditional methods of the Indian craftsman, under competent Indian or European supervision, might lead to greater economy as well as efficiency in Public Works administration, always well known for its extravagance. That is another point on which more light is needed. There is no doubt that the work of the independent Indian master-builder, even in the present day, though smaller in scale than the largest Public Works undertakings, is more than equal both in design and construction to the best the Department has ever produced, and it is most desirable that Municipalities should be encouraged to make a beginning in giving him employment in local undertakings now generally entrusted to the District Engineer or to a Public Works subordinate, who, in architectural matters, is entirely an amateur.

When the Indian master-builders' capacity has been proved in these smaller official undertakings, the way would be prepared for employing him in those greater ones in which his forefathers did such splendid service to the State.

Practical measures of this kind would do far more for the advancement of Indian architecture and industry without throwing any additional charge on the public purse, but actually tending to greater administrative economy—than any expensive schemes for the training of Public Works subordinates in modern European architectural practice. All educational schemes in India which ignore the existence of Indian art and craft, whether they be connected with general or technical education—are wasteful, extravagant and radically unsound in principle. The right policy in technical education in India is to organize the millions of skilled craftsmen, to teach them to make the best use of their skill in adapting it to modern needs, and to increase it by enlarging their opportunities of service for the public advantage. The wrong one, which generally receives official recognition and is considered "progressive" by leaders of Indian opinion, is to spend large sums of public money in the endeavour to create a new class of commercially trained literate middlemen with sufficient technical knowledge to exploit for their own advantage the hereditary illiterate artisan and prevent his intellectual and social advancement. That is the surest way of making all India a suburb of Manchester and Birmingham, of obliterating all that is valuable, both in a spiritual and material sense, in her traditional culture and civilization; of keeping her always behind the progress of Western nations, and inflicting on future generations the untold social miseries which have brought the storm clouds now gathering over Western industrial life.

It would be a great gain to national progress if our educationists and administrators would learn to appreciate the illiterate handicraftsman's skill as an intellectual factor in civilization and not rely only upon percentages of literacy or illiteracy as an infallible index of intellectual and spiritual advancement.

I have laid so much stress upon the official attitude towards this architectural question only because, in the absence of any decided public opinion on the subject, official action must have a paramount influence on the prosperity of Indian architectural art. I do not flatter myself, however, that my words will have any effect on Public Works policy unless public opinion can be roused to recognize the vital importance of the building industry in India's economic system. Although the action of the Government of India through the Archæological Survey may bring to light the existence of Indian architecture, public interest in the question must be aroused before any practical help is likely to be given to the Indian builder. This is a matter which rests almost entirely with Indians themselves. If Indian princes and other wealthy employers of Indian artisans would endeavour to grasp the economic and artistic bearing of this architectural question, and cease to leave their artistic consciences in the keeping of European experts and non-experts the Indian master-builder would soon come to his own again, and the future of Indian architecture would be assured—to the great benefit of every class and every race in India.

Matters Outstanding.

Owing to continued pressure on our limited space it is necessary to hold over several standing features and a number of reviews and other items of interest until a future issue.

The Value of an Architect.

Every day we read of fresh misconception as to the reasons for the existence of an architect, says *The British Architect.* Mr. Arthur J. Martin, the President of the Institute of Sanitary Engineers, who was one of the speakers in the discussion on professional ethics at the meeting of The Society of Architects, said "the great question appeared to him to be that no person should be at liberty to represent himself as an architect without possessing the necessary qualifications for the title." Did Mr. Martin mean that unless a man had the instinct for creating beautiful buildings, he would not be qualified, and that he should have this qualification tested by some person or persons who also possessed similar qualifications? This would be the first and chief qualification necessary, from our point of view. Of course, judged by this, a comparatively small number of members of the various architectural societies would possess much qualification. Mr. Martin said, "what the qualification should be was another matter." He hints that "a recognized term of pupilage" might be a qualification! For our own part, we are convinced that the interests of architects and of architecture are seriously in conflict at the present time. The whole idea of the activities which are prominently engaging the attention of our architectural societies at present seems to be to protect architects from a business point of view, rather than to promote the good of architectural art. We are sure there is something fundamentally wrong about it all. Take the question of fees. It is reasonable that an artist should be tied down in his fees by the cost of the bricks and mortar in which he expresses himself? Can we pretend that the design of London Bridge Station ought to have been paid for at the same percentage on its cost as the best stations in Paris, or in America? Or that the outstanding work of our best architects should receive no greater reward than that of any average member of the Institute or The Society of Architects? The thing is palpably absurd. Some of the best official architecture in this country is paid for by salary, and it is much better than the work of the average of the architects who are practising on their own account. If we are equalizing fees, should we not insist on proper fees for the best official work? Sir Christopher Wren was paid a salary, and it is an everlasting disgrace that he was so scurvily treated, but, though the man suffered, the architecture did not. Mr. George Gilbert Scott said that art could never be paid for (and there may be truth in that), and that if the public got good, sound building and decent planning from an architect, it was all they had the right to expect. But which is it that the public go to an architect for? We certainly don't think that in most cases they go because they want beautiful buildings. Then why should not the bulk of our architects join the Surveyors' Institution, or re-name their own societies, instead of pretending to be what in so large a degree they are not? We yield to none in appreciating the importance of sound, practical building, and a proper consideration for all practical necessities, but we hold that the chief mission of the architect is to give beautiful expression to all these, and not simply to give us dry bones. We are always girding at them not simply to give us dry bones.

We are always girding at the public because they do not appreciate good architectural design. But what can we expect when we look upon the work of the architect as something apart from imagination and instinct, and as a something which can be perfunctorily taught in the schools? One speaker at this discussion (Mr. A. O. Collard) had the courage and common sense to say "he did not think many of them cared much about what they were called, provided they could get the work, and he could not see that whatever a man styled himself, it would prevent him from doing architectural work." We can hardly agree when he further said, "If they had a law limiting the practice of architecture to those who had qualified themselves by the customary methods, it would prevent the genius arising." The words "by customary methods" are very significant. But there is no need to fear that the genius will suffer from non-examination. The genius will arise if he is wanted. We have never heard an explanation from a genius that enabled us to find out how he did it. A merciful providence has saved us from the analysis of that!

Students' Quarterly Competitions.

Third Competition, Quarter ending September 29th, 1912.

The subject for this competition will be "Architectural Sketches" made between June 24th and September 29th, 1912. They must be the unaided work of the candidate, and sketches executed at any of the Students' Sketching parties held between the dates mentioned will be admitted to competition.

Candidates will note that this subject is substituted for the Measured Drawings owing to the latter being the subject for which the Architectural Scholarship is offered this year.

The Sketches, which must be unidentified, must be delivered at the Society's Offices, 28, Bedford Square, W.C., not later than 6 p.m. on Monday, September 30th, 1912, and must have attached thereto a plain sealed envelope containing a declaration signed by the Competitor that he is eligible in every way to compete under the regulations and that the sketches submitted are his own unaided work, and that they have been executed within the time stated, for the purpose of the competition.

For particulars of the awards and general conditions applying to the competition see page 114 *ante*.

SECOND QUARTERLY COMPETITION.

Candidates are reminded that this competition closes on Monday, June 24th, see page 239 *ante*.

The Present Position of Registration.

It is now five years ago, says *The Architect and Contract Reporter*, since the Royal Institute of British Architects formally decided in general meeting to adopt the principle of Registration, and entrusted the Council with the duty of preparing a draft Bill and taking all other necessary steps to carry into effect the determination of the Institute that the architectural profession—or business—should be one of those in which Registration by legal enactment is operative. What has the Council done to carry out the mandate it received five years ago? It has enrolled a large number of architects—of varying calibre—who were formerly without the pale of membership, as Licentiates, and has thus increased the numerical importance of the Royal Institute as the representative body of the architects of Great Britain. So far, good—but what of the Bill?

The Council has produced a draft Bill, wrapped up with a scheme for amalgamation of the Royal Institute and The Society of Architects, and these have been rejected, we might almost have said with derision, but certainly with a close approach to unanimity, by a general meeting of members—the amalgamation scheme as being unfair and unworkable, the draft Bill as being impossible of approval by Parliament. The Council therefore has failed to carry out the mandate given to it five years ago. It is worth while to consider why it has failed.

In the letter from Mr. A. W. S. Cross and Mr. George Hubbard, some of the reasons for the failure are mentioned. First, we are informed that the "futile efforts"—of the Council—"were the result of an adoption of a foolish compromise which satisfied neither side." Let us try to understand this compromise and the relative positions of the parties thereto.

It is now, we think, generally accepted as an axiom that the architects of Great Britain who are in favour of Registration outnumber those who are not so disposed in the proportion of eight to one. But the minority includes many of those who have attained prominent position as able artists and successful practitioners. Amongst these able artists are some who adopt business methods which in the professions of law and medicine would cause their names to be erased from the register. Naturally, therefore, they are strong opponents of Registration for Architects. Reverence for their artistic eminence and a desire to be in their distinguished company have induced other architects of more or less artistic ability, but whose business methods are beyond reproach, to follow their lead, and so the minority who oppose Registration is built up.

From the point of view of Registration, the Council of the Royal Institute may be regarded as consisting of three sections; first, the ardent supporters of Registration, second, its bitter opponents, third, its passive objectors, who recognize that Registration is desired by the large majority of their constituents. The compromise spoken of by Messrs. Cross and Hubbard has been made between the first and third of those sections, and may be described as a Parliamentary recognition of the Royal Institute as the sole director of architectural education and qualification. The educationists desire, not the registration and professional control of all qualified architects, but the regulation of architectural education by themselves, in consideration of which they are prepared to withhold active opposition to Registration.

We may now consider the policy of the Council of the Institute during the last five years in regard to other bodies, professionally rather than educationally, concerned with the practice of architecture. The Society of Architects, which for more than a quarter of a century has steadily and seriously prosecuted an attempt to obtain a Parliamentary enactment for the Registration of Architects, has, it is true, not succeeded in its attempt by reason, principally, of the jealous opposition, covert or overt, of the Institute, but it has done good work in familiarizing many Members of Parliament with the idea of Registration, and by its able management has obtained from the general public a recognition of its authority out of all proportion to the number or importance of its membership. In plain language, many of the public regard the Society as the equal of the Institute, and some even as the superior. The Institute must therefore in fairness, as well as of policy, recognize and placate the Society if Registration is to obtain the approval of Parliament. The Council, as we have already said, has put forward a scheme for placating the Society which has been refused acceptance by the members of the Institute.

Then also, as Messrs. Cross and Hubbard point out, the representative bodies of the surveyors and engineers, together with the Borough and County Councils, must be so far consulted and considered as to disarm any opposition from them to a Registration Bill for architects.* But these powerful vested interests have been ignored by the educationists on the Institute Council equally with those of the older universities.

Thus the Council of the Institute, as at present constituted, has proved itself unsuitable for carrying out the mandate of the general body of members to effectively realize their desire for the statutory registration of architects. It is useless to adopt the attitude of *l'état, c'est moi!* It is idle to suppose that an egotistical scheme of examinations, imperfect and vacillating, according to the idiosyncrasy of the particular egotist for the moment in the ascendant, can take the place of Registration.

If the members of the Institute really desire that Registration shall be an actuality, they must elect a Council who will whole-heartedly devote themselves to surmounting the difficulties that lie in the way, and to producing a draft Bill that will avoid serious opposition and thus possess some chance of becoming law.

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* [The R.I.B.A. are beginning to discover, or to admit, some of the difficulties which the Society has encountered and overcome from time to time in drafting its Registration Bill, which as now framed is so modified in certain details without altering the principle involved as to meet the objections raised at the time by the representatives of the bodies referred to. In our opinion it is impossible to depart from the broad lines of the Society's Bill with any hope of general and Parliamentary approval.—Ed.]

Reviews.

Elizabethan Interiors. By C. J. Charles. George Newnes, Ltd., London, and F. Greenfield, New York. Folio, £2 2*s.*

Consisting of a series of large photo-gravures, excellently produced, printed on alternate pages with descriptive matter, this volume creates an impression of excellence at once. Yet while the description is historical and accurate, displaying perfect appreciation of the architecture of the Elizabethan period, it is only in this last respect that the majority of the illustrations correspond to it. They are not as a rule historical. They mostly represent modern interiors designed in the Elizabethan style by the author, so perfectly rendered as to deceive even one who is experienced, the spirit of the period assumed being most perfectly caught as a rule; though here and there an inharmonious note is struck by the introduction of comparatively flimsy detail of an Adamesque character, especially in the ceilings. How far any architect is justified in thus adopting the style of a bygone period is open to argument. It was the spirit of the Gothic revivalists of last century rather than of the progressive thinkers of to-day; but there are still apologists for copyism, and possibly good copies are better than bad originals, if only some pains be taken to indicate that they are what they are.

Lectures on Cement. By Bertram Blount, F.I.C. The Institute of Chemistry of Great Britain and Ireland, 30, Bloomsbury Square, London, W.C. Demy 8vo., 62pp., 2*s.* 6*d.* net.

These lectures were delivered under a scheme for the delivering of lectures by Fellows of the Institute of Chemistry who have special knowledge and experience in various branches of practical work, and are published chiefly for the benefit of advanced students. We often require to "know a little of everything" and sometimes "everything of something;" in the latter case we go to an acknowledged expert for our information, and upon the subject of Cement Mr. Blount is an expert of the first rank. Calcareous cements are those chiefly of interest to the architect, and the earliest form was probably plaster of Paris, which, however, is only of limited use, as it expands considerably in setting and is easily attackable by water. It is surmised that the accidental burning of some form of calcium carbonate put into the hands of a primitive and curious architect, a substance which he perceived to have merit as a structural material, and that such casual observation was the origin of our present knowledge of calcareous cements, and of the industry concerned in their production. The employment of some form of calcareous cement from almost prehistoric times for bedding masonry was due to appreciation of the fact that it became harder and more impervious to moisture than any merely argillaceous substance such as clay. Smeaton was the first to demonstrate that a carbonate of lime containing clay produced, when burnt, a cement that would set and harden under water. The essence of the manufacture of Portland cement is the interaction of argillaceous and calcareous materials at such a temperature and in such proportions as to form a clinker, which, when ground, will set and be strong and remain sound. However arrived at by the adjustment of the less and the more calcareous of the materials, there will be found in the dry mixture lime equivalent to about 75 per cent of $CaCO_3$, and the balance, 25 per cent., composed of silica and alumina + oxide of iron, in the proportion of about two of silica to one of alumina and oxide of iron jointly, and some combined water with such minor constituents as magnesia, sulphur as sulphides, and alkalies. When properly ground and mixed they are then burnt at a temperature high enough for complete clinkering, and the clinker so obtained is ground to form Portland cement. The tests prescribed by the specification of the Engineering Standards Committee ensures that the material shall be of proper character. The lectures are, of course, primarily adapted to students of chemistry, but there is much interesting matter in them and many useful hints. Appendices to the lectures give analyses of Portland cement and the raw materials, the method of analysing them, the method of preparing cement from raw materials on an experimental scale, and the significant clauses of the British Standard Specification for Portland cement. Some diagrams are added showing illustrations of testing apparatus.

Small Water Supplies, being a practical Treatise on the methods of Collecting, Storing and Conveying Water for Domestic Use in large Country Mansions, Estates and small Villages and Farms. For the use of Engineers, Estate Agents and Owners of Country Property. By F. Noël Taylor, C.E., with 126 illustrations from drawings and photographs. London: B. T. Batsford. No date. Cloth, 8vo., pp. 174.

This work covers the properties of water and sources of supply, wells and well sinking, flow of water in channels and pipes, pumping water, storage and distribution; and there are two appendices on noises in water pipes and their causes, and further notes on Abyssinian tube-wells. The book is largely a compilation in a useful form and although the author states in his preface that one of the reasons that induced him to write the book was that he "in his younger days felt the want of some sort of guide to assist him in carrying out successfully several of the small water supply schemes on which he has been engaged from time to time," we should hope that the lapse of a few more years will enable him to produce a more valuable book than the present one. He is correct in saying that "it is quite impossible to point out every conceivable form of difficulty which besets the engineer in work of this kind," but we should think this "goes without saying." Many of his statements are so vague as to be of little use. For instance he says at p. 99 "The actual composition of the concrete is usually 6—1 Portland cement and ballast, the latter being composed of 2—1 of $1\frac{1}{2}$ in. broken stone and sand." At page 122 in using the formula $\frac{W}{A} \pm \frac{M}{Z}$ he says "the difference should for bed joints in masonry prove a negative quantity," but if this were so there would be tension on the inner edge, which is the reverse of what is desirable. At p. 149 he quotes Adams' empirical formula for reinforced concrete beams without saying where he obtains it, but he incorrectly gives p = the safe stress intensity in lb. per sq. in. = 150 = 1·3 cwt., whereas p = percentage of reinforcement. The statement at p. 71 that "The more expensive ram will be cheapest in initial cost" is somewhat difficult to understand when the author completes the sentence by saying "the up-keep of all being about the same." As a minor matter the book is disfigured by many misprints which are at any rate not all attributable to the printer. On title page and at p. 12, the word Institute for Institution; in table of contents, Abyssian for Abyssinian; p. 10, load for loam; p. 17, permeous for permeable; p. 20, alternative for alternate; p. 47, steam for stream; p. 52, effects for affects; and in several places strata for stratum in the singular; besides slips in grammar and composition. On the whole, although some useful information may be gathered from the book we cannot recommend it as a creditable piece of work.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

The Architectural Association Athletic Club.

Sir,—The Council of the Architectural Association has given the General Committee of the Athletic Club permission to elect any member of the kindred professions, *i.e.*, Architecture, Painting, Sculpture, and Surveying, as a member of the Club. We should therefore be grateful if you would make this known to your members. The Club has a ground of 6⅓ acres at Boreham Wood, for Rugby Football, Hockey, and Cricket, and there is an excellent pavilion and accommodation for refreshment.

The Club has also Rifle, Swimming, and Golf branches, and we shall be pleased to welcome any members of the Society wishing to join the Club, who should apply to me, c/o The Architectural Association, 18, Tufton Street, Westminster.

John H. Squire, *Hon. Secretary, A.A.A.C.*

Professional Ethics.

Sir,—I was greatly interested in your "Notes on Professional Ethics," especially those having regard to the very vexed question of the ownership of drawings. May I be permitted to mention what has been my own practice with regard to this matter. I always insert in the Preliminary Schedule of the R.I.B.A. Contract, in lieu of the usual paragraph V., the following :—

> "The drawings, tracings, details, specifications, and all other documents used by the Architect for the erection and carrying out of his designs for the building before described are to be used for this building only, and it is hereby agreed that they are the sole property of the Architect and must be returned to him by both Employers and Contractors at the completion of the works. The Architect is agent only and not responsible for any payments.

As this Contract is signed by both Employers and the Contractors, I venture to think that this covers the point amply. I find that five minutes' chat is generally sufficient to convince a Committee or Client of the reasonableness of inserting such a clause.

As regards fees, I may say that I always insert in the Contract the following clause :—

> "The fees charged by the Architect shall be in accordance with the published Scale of Charges of the Royal Institute of British Architects, and the Employers hereby agree to pay him in accordance with that Schedule."
>
> "Provided always that the Employers shall retain the right of submitting the Architect's statement of fees due to the Royal Institute of British Architects should they so desire for taxing."

I may say that the last part of clause was put in at the request of the Solicitors of clients who were Trustees to an Estate and wished to guard themselves against any personal claim upon themselves. I agreed to the insertion, although I had my doubts whether the Institute would undertake that duty.

However, I think the idea a most excellent one, and the general public, so I find, seem to take very kindly to the idea, which I think could be expanded or adapted.

E. P. (*Member*).

SIR,—I welcome a declaration of principles, and I do not agree that the statement of them casts reflection upon anyone. On the contrary, I think it is good to be able to point to them and say, " This is our standard of conduct." I think that a code will be useful more as a declaration than for penalizing purposes; but even as a mere declaration I think it would have a guiding and, in some cases, a deterrent effect.

My feelings are very strongly in opposition to the statement made by Mr. Collard, when he said that men are driven by circumstances to do things that are wrong or unprofessional. Whether this may be so or not, it is intolerable as an article of ethics. Such an attitude would bring ethics to the level of practice, instead of practice to the level of ethics.

I do not see in what way true artists would be restrained by subscribing to a code of ethics. I certainly believe that any artist of strong conviction has great faith in his own work and feels justified in pressing for his own interpretation of things, but this need not blind him to the fact that other artists may be equally sincere, or to the fact that architecture is a profession as well as an art, and that one idea must not be allowed to prevail to the exclusion of the other.

As regards the scale of charges, I think the present system, although open to objection, is the best workable basis. I, therefore, await with interest any new proposals which are claimed to be better. I am glad to learn that the Institute are considering the matter, as I think it is urgent in view of recent changes and added complexities. I see objection to the present scale being regarded as a minimum, but I think it provides a useful limit where one can take a firm stand, which would be absent from a maximum scale. With a maximum scale I fear there would be a great deal of work done at low rates. Perhaps both objections can be met by having a statutory scale which provides for a reasonable renumeration, and, while not being obligatory, it would be understood that an architect accepting less would be acting against the interest of the profession, or else admitting frankly that he was not sufficiently well established, or his services were not of sufficient value, to require the statutory scale.

As regards the ownership of drawings, I think the architect should have custody of the drawings, and a reversal of the legal ruling on this point should earnestly be sought. If this cannot be so, I think provision should be made for a charge for such drawings, but I do not think it can well be made a matter of bargaining with the client at the outset. It is better to have some recognized basis of charge for this item.

As regards advertising, it seems to me that if a limited form is allowed the difficulty will be to draw the line. It seems desirable to rule out advertising altogether, though this would not apply to book illustration, or records of buildings of interest, for which there is a public demand. On the other hand, I do not see why the name of the architect of a building in course of erection should not be known. On a recent occasion, I was asked by a builder whether he should display our name. I said, " Well, write it very small in the corner of your board so that it can be there for reference, but not so that it obtrudes itself." I found it very difficult to get my idea carried out. Would the difficulty be met by fixing the architect's card in a corner of the contractor's board? Unfortunately, the people most interested in the matter are those who have some speciality to push, and these come to bother the architect. I think it is more important that his name should be known when the building is nearing completion and completed, because until then very few people can rightly judge the qualities of a building. I think doctors and solicitors do not lose by not advertising, and the same probably applies to architects.

J. W. (*Member*).

Seven Cardinal Reasons in favour of Licensing Architects.

Mr. H. B. Wheelock, F.A.I.A., a member of the Illinois Board of Examiners, in a paper read before the American Institute of Architects, published in *Construction*, says, the majority of buildings erected in that country are bad from every standpoint; they are inartistic, unsafe, unsanitary—even when the owner is able and willing to pay for a creditable structure. How can it be otherwise when any man or woman who chooses may hang out his or her shingle as an "architect," and may design and construct any building for public or private use without question as to his fitness or preparation, or even his knowledge as to the common laws of safety and hygiene? Until time and education have produced men who shall command respect for their ability to design and supervise structures that shall be a credit to our profession, Architects the country over should lend a hand to bring about legislation that shall at least insure greater safety and proper sanitation in all our buildings, and eventually place the profession of architecture on the high pedestal it deserves.

How can this best be accomplished? We are loath to acknowledge that the only feasible, in fact the only possible solution is a legal one. Our brother professional man, the lawyer, informs us that laws which interfere with the personal liberty of the citizen and his right to pursue such a vocation or calling as he may chose, cannot be constitutionally enacted, unless the public health, comfort, safety or welfare demands this enactment. Quoting from Brooks' legal maxims: "Salus populi, suprema lex." "That regard for the public welfare is the highest law." There is an implied assent on the part of every member of society that his own individual welfare, shall, in case of necessity, yield to that of humanity. The object of all government must be to control human action to the extent necessary and proper for the common good, therefore it is plainly evident that by virtue of this it is not only the right, but the solemn duty of the State to enact such laws as will be conducive to these ends; and the profession of architecture should not be found wanting or negligent as compared with the other recognized professions in assisting and co-operating with legislative bodies to have proper and sufficient laws enacted that will give adequate protection to the public against unsafe and poorly constructed and insanitary buildings. The architectural profession has nothing to lose but everything to gain. To license a man to practice a profession is to grant permission to him, due to his special knowledge and equipment, to do that which common sense dictates others must not do. "Common sense" is here used as a definition of law, therefore it must follow that it is not only right but should be made compulsory for all men who would practice a profession such as architecture to be licensed, Where the successful prosecution of a calling requires a certain amount of technical knowledge and professional skill, and the lack of them in the practitioner will result in material damage to the one who employs him, it is a legitimate exercise of the police power to prohibit anyone from engaging in the calling who has not previously been examined by the lawfully constituted authority, and received a certificate of his qualifications to practice the profession. Thus we find in every State statutes which provide for the examination of those who wish to engage in the practice of law, of medicine and surgery, and of pharmacy. Many States, no less than seven, have now enacted laws to govern the practice of architecture. The index finger is even now pointing to the inevitable, that all States must sooner or later adopt similar laws. Illinois was the first to have such a law, which was passed some fourteen years ago, and has been amended several times, and is still not altogether perfect; however, it has not only been conducive to protecting the public, but has been of a very material aid in promoting architectural education, and has unquestionably raised the standard of the profession as nothing else could have done. Many applicants for license have spent from three to five years in serious preparation after having discovered their lack of qualifications through taking an examination. As many fail to prove their ability in plan and design before the Board of Examiners as fail in construction, which shows how thorough the Board is in executing its authorized commission; the same holds good in many of the other States.

The Technical Schools throughout the country testify that their courses of instruction have been greatly advanced since the advent of such laws, that their architectural departments have a much larger attendance, that the establishing of architectural schools and departments is in greater demand the country over.

The State Boards all testify that they constantly serve in the capacity as an advisory Board to young men, advising them by all means to seek the advantages offered in some recognized Technical School. What a Godsend to any young man to be permitted the privilege of taking an examination before a competent Board who will point out to him wherein he is deficient, that he may the better prepare himself before entering upon his life calling; again, how fortunate for the young man who has unwisely chosen the profession, to have his mistake pointed out before 'tis too late. The public and the profession are mutually benefitted by such incidents which are occurring constantly in several States; and inversely is it true—the public and the profession is greatly wronged in those States where no adequate law prevails to govern the practice of architecture.

The following has been gleaned from a very carefully selected list of questions which were submitted to the various Examining Boards in the States of Illinois, California, New Jersey, Colorado, Louisiana, Utah, Manitoba and Quebec:—

(1) Architects in States where such laws exist give their almost unanimous approval of same; this means only one thing—that the law is operating satisfactorily.

(2) The law has not been a hindrance to any worthy practitioner, but rather the reverse, since it has removed the once popular individual called "architect and contractor," the "architect builder," the "architect and engineer," and the alleged architect that carried his office in his hat. Some declare it has been the means of eliminating a brand of the "giver of something for nothing" that in their far western country had become a menace as well as a nuisance to the profession.

(3) Many State Universities and Technical Schools have, since the advent of the architects' license laws revised their curriculum, added thereto and modernized their courses to meet the present demands. It is particularly interesting to note that the University of the State of Colorado is about to establish a course of architectural study, due solely to the fact of the existence of a license law; there is not, at the present time, any technical school in Colorado that has a chair of architecture. Their license law provides that "all surplus funds accruing from fees" shall form the nucleus of a fund to provide for an advanced course of architectural study to be established in the University of the State of Colorado.

(4) The law has created a higher ethical and moral standard in the practice of the profession as well as competency in planning and designing.

(5) There is no doubt that the applicant for a license makes a greater special effort in preparation for the examination than he would otherwise do, thus becoming far better fitted to practice from the very beginning of his architectural career.

(6) The public has already learned that in a State where a license law exists, the man who has not a license is a questionable man to deal with.

(7) No one thing done by the architects has had such a salutory effect towards better architectural education than the establishing of such laws as are now in existence in the several States, and the inevitable result of all this will be that in a few years only thoroughly competent men will dare attempt to practice architecture.

These are indeed the cardinal reasons why the architect should be licensed, and they should also appeal to every member of the A.I.A. who loves his profession and desires to have it receive proper recognition from the public. It is hardly possible to conceive that any broad-gauged architect would lessen his dignity or suffer insult to his esthetic nature by being obliged to prove to the public in some positive manner his ability to build well.

After a law governing the practice of architecture is once established it would thereafter only apply to the young and inexperienced man, who, before presenting himself before the public and demanding its confidence, should first demonstrate his qualifications and ability. The older men in the profession should have sufficient loyalty to the public and interest enough in their chosen calling to lend themselves whole-heartedly to this result.

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The R.I.B.A. and Registration.

In the course of a leading article on the Institute Council and Registration, *The Architect and Contract Reporter* says, the general body of members of the Royal Institute of British Architects have once more demonstrated that they represent truly the feelings of the whole profession, calling or trade of architects by electing a Council composed of those who are believed to be sufficiently enthusiastic in the cause of registration to press on with promptitude the preparation of a Bill that will be acceptable alike to architects generally and to Parliament.

In parliamentary language the newly-elected Council of the Royal Institute has received a "mandate" from the general membership to produce and, if possible, pass through Parliament, a satisfactory Registration Bill. The mandate is not an easy one with which to comply, and to expedite the progress of registration, the newly-elected Council must be prepared to work double tides. There is opposition and obstruction to be conciliated or overcome. There are many interests to be considered and accommodated. The Society of Architects cannot be ignored, but the friendly co-operation that it tenders must be accepted in some shape or other, despite the non-acceptance of the scheme put forward during the now closing session. The interests and views of the allied societies must be considered, but as these societies are represented on the Council by their accredited representatives, it may be taken for granted that those interests and views will be in the hands of members of the Council, who, whilst putting them forward, will do so with full realization of the many difficulties with which the problem of registration bristles. Then, as was pointed out by several speakers at the general meeting which refused the amalgamation scheme, there are the views of the representative bodies of the surveyors, the civil engineers, and the employees of municipal authorities to be taken into account.

All these varied, and in some instances divergent, interests have to be conciliated before a Bill can be framed which will be acceptable by a sufficient majority of architects and of those more or less interested in architecture to avoid fatal opposition, and negotiation and consideration must necessarily be prolonged before this can be accomplished, the more so that every concession to vested interest or individual opinion must always be influenced by a consideration of its probable acceptance or rejection by Parliament.

One thing may be expected with certainty, that in whatever form and on whatever lines a Bill is drafted, it will meet with opposition from the anti-registrationists within the Institute itself, and this opposition is likely to take the subtle and dangerous form of objection on the score of inadmissibility in the interests of registration. At the historic meeting which condemned the amalgamation scheme, nothing was more remarkable than the skilful analysis of the defects of the scheme by those who are opposed *in toto* to any form of registration. The anti-registrationists know very well that in voicing open opposition to the principle of registration they are fighting the lost battle of a very small minority, but by destructive criticism—and such criticism is always easy—they may hope to obtain the assistance of supporters of registration in an opposition to every constructive proposition, and thus, as they desire, postpone to the Greek Kalends the presentation of a Bill to Parliament.

In these tactics the anti-registrationists are greatly assisted by the methods of conducting business that exist in the Royal Institute. Matters affecting the whole membership are dealt with by a meeting of a couple of hundred in London, and a bare majority of the meeting can veto a scheme in which thousands of provincial members are deeply interested and of which they heartily approve. Now registration is a matter in which provincial architects are far more concerned than are London practitioners, whilst it is within the Metropolis that the earnest opponents of registration are almost entirely to be found. Even here they are in a minority, but their relative inferiority in numbers is far less than in the general body of practising architects throughout the Kingdom. Consequently it is easy to work up a factitious opposition in London, if not to the principle of registration at any rate to the details of any scheme or Bill that may be put forward. This is one of the greatest difficulties with which the newly elected Council of the Royal Institute will have to grapple in carrying out the mandate with which they have been entrusted by their constituents.

British Indian Architecture.

An Appeal to Public Taste.

Attention has occasionally been invited in these columns says *Indian Engineering* to the bastard architecture which has been allowed to disfigure many of the finest streets of Calcutta and some unfortunate towns outside of it. This appeal to public taste was first made before Mr. Havell fell on the Philistism of the Public Works Department. Mr. Havell has rendered some service to Indian art, but it is one thing to encourage a renaissance of true Indian art, and another and somewhat different thing to pass all British Indian Architecture in this land under the yoke of indigenous ideas. To the genuine Indian official it must appear as profound a mistake, as sad a betrayal of a sacred trust, to introduce a bastard British Indian Architecture as to bastardise any other branch of British effort in this country. To sympathize with Indians in their natural bent is perfectly possible without depriving British purposes in India, whether in architecture or in anything else, of the essential spirit of British aims in India. The truth and reason in Mr. Havell's protests against the Philistism, which has dotted the country with monstrous productions in masonry and stone, owe their vitality to the past unfaithfulness of British builders in India to their higher traditions, and not to anything in those traditions of which any British architect should feel ashamed. Just as it has been possible to enlist Indian patriotism in some forms of self-government, which are not open to the exceptions which can be urged against elective machinery and other foreign devices that have not taken root in this country, and could not take root in it before its people had undergone the moral, social, and political experiences from which the political devices of Britain have emerged, so, it is within the range of the best British ambitions to leave in India some form of architecture in which the time spent in British rule may tell upon some devices, and vitalise them, so long as they steer clear of the bastardising influence which, while explaining neither a true British nor a true Indian ideal, give birth to the type of mongrel productions which have long disgusted the higher British taste, and at last wrung from Mr. Havell his published protests. Though Mr. Havell has rendered real service to Indian Architecture by emphasizing the need of preserving it in its purity, it is not less a duty of true British Architects to be careful lest, in yielding to the sentiment which proves its sympathy with the higher type of Indian aims, to be careful not to lower any British effort, whether in architecture or in anything else, to ideals of which no true British patriot or artist can approve.

Grecian Architecture.

By Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (*Member*).*

"THE Architecture of Greece has a value far higher than that attaching to any of the styles which preceded it, on account of the beauty of the buildings and the astonishing refinement which the best of them displayed."

This architecture has a further claim on our attention as being virtually the parent of that of all the nations of Western Europe.

We cannot put a finger upon any feature of Egyptian, Assyrian, or Persian architecture, the influence of which has survived to the present day, except such as was adopted by the Greeks.

On the other hand there is no feature, no ornament, nor even any principle of design which the Greek architects employed that can be said to have now become obsolete.

Not only do we find direct reproductions of Greek architecture forming part of the practice of every European country, but we are able to trace to Greek art the parentage of many of the forms and features of Roman, Byzantine, and Gothic architecture, especially those which are connected with the column, and which grew out of its artistic use.

Greek architecture did not include the arch and all the forms allied to it, such as the vault and the dome, and, so far as we know, the Greeks abstained from the use of the tower.

Examples of both these features, were, it is almost certain, as fully within the knowledge of the Greeks as were those features of Egyptian, Assyrian, and Persian buildings which they employed: consequently it is to deliberate selection that we must attribute this exclusion.

Within the limits, by which they confined themselves, the Greeks worked with such power, learning, taste and skill, that we may fairly claim for their highest achievement—The Parthenon—that it advanced as near to absolute perfection as any work of art ever has been, or ever can be carried.

The temples of the gods were originally small in size. The most ancient were hollow trees in which the images of the gods were placed. Hence the temple in early times was simply the habitation of the deity, and not a place for the worshippers. As the nations grew in knowledge and civilization, the desire naturally arose of improving and embellishing the habitations of their deities.

The hollow tree was first exchanged for a wooden house. The form of the temple was undoubtedly borrowed from the common dwellings of men.

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* Read before the Society on May 9th, 1912.

Among the Greeks of Asia Minor we still find an exact conformity of style and arrangement between the wooden huts now occupied by the peasantry, and the splendid temples of antiquity.

The wooden habitation of the god gave way in turn to a temple of stone.

The Grecian temple usually consisted of three parts. The *pronaos* or Vestibule, the *Naos* or cella, which contained the statue of the deity, and the *Opisthodomus*, or back building, in which the treasures of the temple were frequently kept.

We are told that most of the large temples received their light from an opening in the centre of the building, and were for this reason called " Hypæthral," or under the sky.

In his recent *History of Architecture*, Professor Lethaby says there was no light from the roof, that the cella was lighted only from the door. This is, no doubt, true of the small early temples, but it is not at all certain that the later Greeks would be satisfied with this primitive way of lighting. I will have something more to say about this point later on.

Hellenic Greek architecture may be said to commence 776 B.C., and to extend to the taking and sacking of Corinth by the Romans, 146 B.C.

No examples exist so early in date as the eighth century, B.C., and, on the other hand, Greek art did not cease with the Roman occupation ; in fact as late as the Christian era it still possessed considerable purity. The style was at its zenith between the years 480 B.C. and 323 B.C.

The final victory of the Greeks over the Persians marks the turning point in Greek art.

The country, freed from all fear of invasion, flushed with victory, and rich with the spoils of war, was able, for some little time, to turn its attention to the arts of peace, and under Pericles, who was Controller of Public Works in Athens from 460 to 429 B.C., the temples and other public buildings were rebuilt on a scale, and with a beauty far surpassing all those which had gone before.

The Hellenic period which followed the Mycenæan is notable for the development of the trabeated style, which the Greeks approved and developed, and which is recognized as the special Grecian type.

This style was essentially trabeated and columnar, and largely influenced by the use of finely dressed marble.

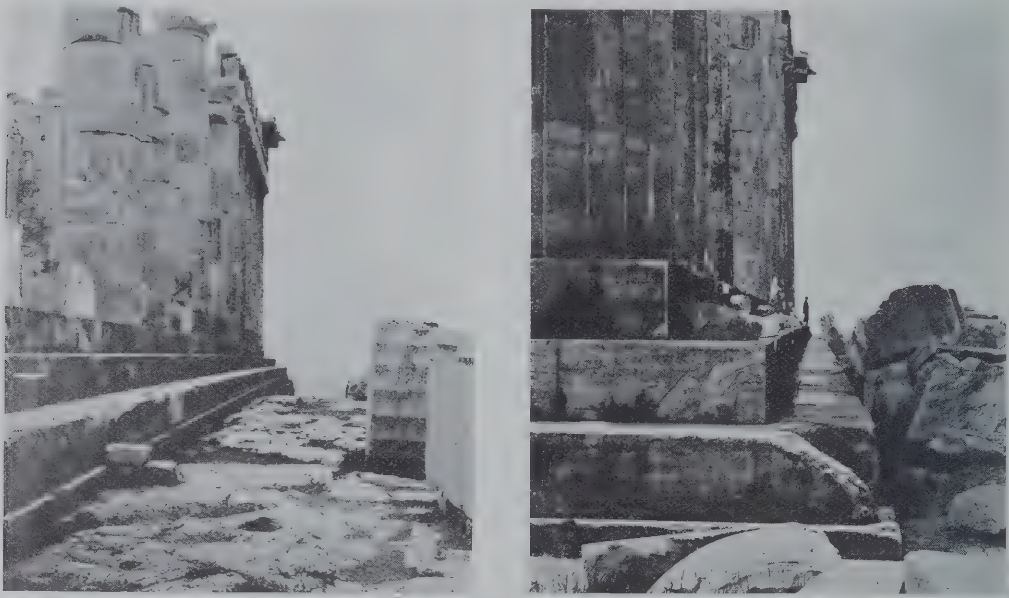
Stability was achieved solely by the judicious observance of the laws of gravity ; the weights acting only vertically, and consequently needing but vertical resistances.

Stone and marble lintels being difficult to obtain in any great length (or, when so obtained, not being a material suitable for resisting bending stresses), the columns or supports had to be placed comparatively close together, a method of design which dictated a certain simplicity of treatment characteristic of the style.

Choisy made a careful study of the materials used in the construction of the temples at Ægina and Pæstum, and found that the stones were laid on their quarry bed, that is on the beds in which they were originally deposited, except in the case of the entablatures in which the stones were required to resist bending moments. In such situations the stones were placed with their beds vertically, as they were then better able to withstand a cross-strain, and a wider space between the columns could be obtained.

The general architectural character of the early works of the Hellenic period is heavy and severe, but a gradual change towards refinement and beauty took place, and, in the later periods, the proportions of the columns were more slender and the mouldings more refined.

Unity of effect in the larger temples was obtained by the colonnade surrounding the shrine-cell, forming a contrast with the number of halls, courts, and chambers, decreasing in size from the entrance pylons comprised in a typical Egyptian temple.



Stylobate of the Parthenon, showing the Curve.

Many refinements in design were practised in the best period of Greek art in order to correct optical illusions, as has been discovered by Penrose, in many temples and especially in the Parthenon.

The long lines of the architrave (or, as we should perhaps call it, the entablature), the stylobate, on which the columns rested, the pediment and other features, (which, if built straight in reality, would appear to droop or sag in the middle of their length), were formed with slight convex lines. For instance in the Parthenon, the stylobate has an upward curvature towards its centre of 2·61 inches in the east and west fronts, and of 4·39 inches on the flanks.

The vertical features were made to incline inwards, in order to correct the tendency, which such features have, of appearing to fall outwards at the top.

Thus, in the Parthenon, the axes of the outer columns leans inwards 2·65 inches, and would meet, if produced at a mile above ground.

The faces of the architraves were also given an inward inclination.

The shafts almost invariably have an entasis or swelling, in addition to being tapered from bottom to top. The amount of entasis in the columns of the Parthenon is three quarters of an inch in a height of 34 feet.

To deal properly with the optical refinements of the Greeks, would require an evening, and a separate paper to itself.

The Greeks developed the so-called "Orders of Architecture," the Doric, Ionic and Corinthian being used by them. In later times, the Romans added the Tuscan and the Composite, thus completing what are now known as the "Five Orders of Architecture."

It is doubtful if the two latter orders used by the Romans are deserving of the title of "Orders," the first being a simplified form of the Doric, and the latter, the Composite, being a combination of the Ionic with the Corinthian. It is quite usual therefore to speak of three orders, and this is probably the more correct way of referring to them.

THE DORIC ORDER.—The oldest, plainest, and most sturdy of the Orders is traced to an Egyptian prototype in the tombs of Beni-Hassan, which were made in the twelfth dynasty, 2800 to 2560 B.C.

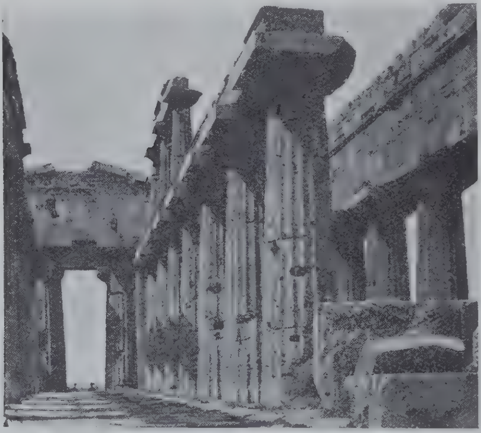
Although most of you are familiar with these tombs, a few words of reminder may not be amiss. This tomb was cut out of the living rock in the face of the cliff, and the columns of the portico were left standing, tapered from the ground upwards, and are said to have an entasis, or swelling. The columns had sixteen sides, and these sides were slightly hollowed or fluted.

The caps were simple abacus blocks, placed on top of the columns, without an echinus or rounded moulding as in the Greek work.

Great differences of opinion exist on the origin of the Doric order; while some authorities hold that these tombs at Beni-Hassan were the motif of inspiration, others say that the timber construction of the earlier Greek palaces of the Mycenæan period were the prototypes, and yet another authority—no less a one than Viollet le Duc—holds that the Grecian orders involved an original stone construction.

We cannot just now pursue this inquiry, and even if time permitted it is doubtful if great benefit would result. It seems to me more important to dwell on the æsthetic values of the forms which have been handed down to us, than to examine them from an archæological standpoint.

To return to a description of the Doric order. The column has no base but stands on the stylobate, usually of three steps: it is in height, including the capital, from 4 to 6½ times the diameter of the base. The shaft diminishes from ¾ to ⅔rds of its diameter, is divided generally in twenty shallow channels or flutes separated by sharp arrises. The division into twenty flutes seems to have been selected in order that a projection or arris, and not a hollow or flute, should come under each angle of the square abacus above, and at the same time a flute in the centre of the column, as seen from the front, back, or sides. It will be found that no other number of flutes between twelve and twenty-eight will enable this to be done, thus following out the Greek constructive principles of placing projections over projections.



Temple of Neptune at Pæstum.

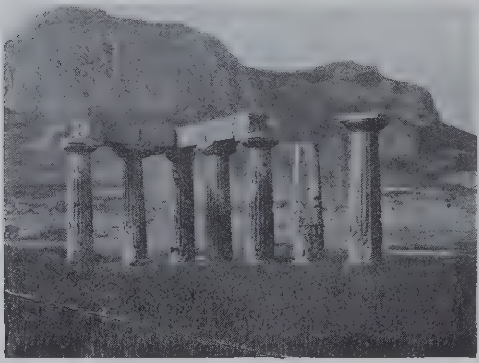
It has already been stated that the shaft has an entasis or swelling: this, in the early work, was too much in evidence, as in the temple at Pæstum. In one of the temples at Corinth, the entasis is omitted altogether, with harmful effect, but the just, carved effect is attained in the Parthenon.

The *Capital* is formed of the abacus (a flat square slab), under which is the echinus (a round convex moulding), and lower down are the amulets or neckings.

The *Entablature*, usually about one-quarter of the height of the Order, is supported by the columns, and has three main divisions.

I do not think it necessary to go into all the details of the various members of the entablature.

If we now proceed to examine definite examples, it will give a better idea of the general characteristics of Grecian architecture.



Temple at Corinth.

The *Temple of Hera Olympia*, erected about 700 B.C., is believed to be the most ancient of Greek temples remaining to us. Its length is about 168 ft., by 64 ft. wide. The cella is very long in proportion to its width, with a shallow portico or pronaos in front and back.

There are two rows of columns in the interior, eight on either side, and the alternate ones are connected to the side walls by short transverse walls.

The peristyle columns are some of them monoliths, and some built up in drums.

It is said that the columns were originally of timber which were replaced by stone as they decayed. Pausanias mentions that in the second century, A.D., two of the columns in the opisthodomus were of oak.

The *Temple of Zeus at Olympia* (472-469 B.C.), has six columns in front, and thirteen on the flanks. The columns are equal in height to those of the Parthenon, but are of greater diameter. This was the characteristic tendency: as the Doric style advanced, the columns were made more slender.

The *Temple of Theseus* at Athens (465 B.C.), is now generally believed to be the Temple of Hephæstos. It is one of the best preserved Doric examples in Greece. It is a peripteral hexastyle temple with thirteen columns on the flank.

It was an almost invariable rule that the number of columns on the flank of the temples was twice plus one the number of that in the ends.

We are told that the Greek temples were painted, that the beautiful white marble (or I should call it ivory coloured marble, as it now is), was covered with paint in blues and reds.

Only those who have visited Greece, and have had opportunities of carefully examining the remains, can have any correct ideas on this matter.

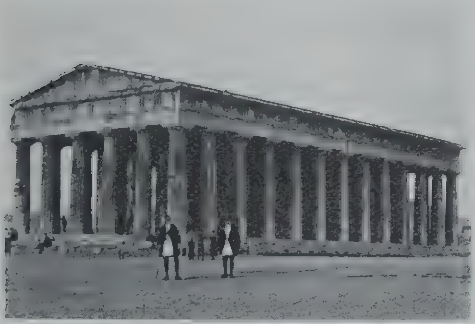
I do not think that designers and masters of refinement, such as the Greeks admittedly were, would call to their aid colour applied, as distinguished from the legitimate colour of the materials in which they worked.

It may be that there were periods of decadence in Greece, just as there are in our own times, and that some leader of the fashions in architecture, or perhaps some painting contractor was turned loose upon the temple, and that he did spread his paint.

Can you imagine a building of the undoubted and admitted beauty of the Parthenon covered all over with paint? I do not force this view, which is a personal one, and I may be wrong.

The existing lacunaria (otherwise the flat slabs of marble which formed the ceiling) of the peristyle of the Theseum still retain some of their original colouring.

The metopes and frieze of the cella were sculptured, and both pediments were ornamented with sculpture, but none of the sculpture in the pediments remains.



THE THESEUM, ATHENS.

The *Parthenon* (B.C., 454-438), was erected in the time of Pericles, being dedicated to the Virgin Athena (Athena Parthenos).

Ictinus and Calicrates were the architects, and Phidias was the superintending sculptor.

The Temple is peripteral octastyle in plan, with seventeen columns on the flanks.

It is placed on a stylobate of three steps: the width of the top step is 102 ft., and the length 228 ft.

Each step measures 1 ft. 8 in. high, and 2 ft. 4 in. wide.

On the East, the principal door led into the cella, which was divided by two rows of ten Doric columns, 3 ft. 8 in. diameter. These columns were placed at the western end, so making the aisle continuous round three sides of the cella.

Near the western end of the cella was the famous statue of Athena.

To the west of the cella was the Parthenon proper (or Virgin's Chamber), from which the temple took its name.

This chamber is peculiar to this temple, and differs from that of many of the other temples. It was entered from a large doorway in the opisthodomus, and its roof was supported by four Ionic pillars.

Both the pronaos and opisthodomus, that is the front and back porticos, were used as treasuries, and in order to render them secure, lofty metal grills were fixed between the columns, and extended from floor to ceiling.

The internal columns of the cella supported an upper row of smaller Doric pillars, which in turn carried the roof timbers.

Near the western end of the cella stood the famous statue of Athena Parthenos, which was one of the most marvellous works of Phidias, representing Athena, fully armed, with spear, helmet, ægis and shield, supporting a small statue of the winged victory in her right hand.

The statue was constructed with a wooden core, and was 40 ft. high.

This wooden core was plated with ivory and gold. The gold plates were so arranged that they could be removed in case of national danger.

The face, hands, and feet were of ivory, but the drapery, armour and accessories were of gold, and precious stones were used for the eyes.

The *lighting* of Greek temples has been already referred to, and, as the theories in vogue apply to the Parthenon, we may glance at them here.

In some of the larger temples, an opening was left in the roof to light the cella.

Windows are very seldom used for lighting the interior.

Ferguson made a drawing of the restoration of the Parthenon, and the manner of lighting the interior. He says, "No one will, I believe, now contend as was once done, that it was by lamplight alone that the beauty of their interiors could be seen, and as light certainly was not introduced through the side walls, nor could be, in sufficient quantities through the doorways, it is only from the roof that it could be admitted.

"At the same time it could not have been through a large horizontal opening in the roof, as has been supposed, as that would have admitted the rain and snow as well as the light, and the only alternative seems to be one I suggested some years ago, of a clerestory, similar internally to that found in all the great Egyptian temples, but externally requiring such a change of arrangement as was necessary to adapt it to a sloping instead of a flat roof.

"This could have been effected by countersinking it into the roof so as to make it in fact three ridges in those parts where the light was admitted, though the regular slope of the roof was retained between these openings, so that neither the ridge nor the continuity of the lines of the roof was interfered with.

"This would effect all that was required, and in the most beautiful manner. It moreover agrees with all the remains of Greek temples that now exist as well as with all the descriptions that have been handed down to us from antiquity."

There seems to be no doubt that this theory of Ferguson's is a reasonable and satisfying one, and that it was very unlikely the Greeks, who were so strong on the point of simplicity and straightforwardness in their works, would resort to such a clumsy and unsightly method of lighting their temples as by leaving a gap in the roof, taking as it were a bite out of the centre of the roof, and leaving an ugly notch in the skyline.

On the other hand, the pitch of the roof was so flat that it was necessary to stand a considerable distance away before one could see very much of the roof, or else to go on to a height, and an opening half-way down the roof would be scarcely noticeable.

Referring to Ferguson's theory, Professor Gardiner says, "It must be acknowledged to be very ingenious." "But it is not supported by any clear example of such an arrangement in any known building of classical times, and it is difficult to believe that so convenient a device, if present in so famous a temple, would not have left some trace elsewhere.

"Moreover, such means of lighting are perhaps superfluous in the case of the Parthenon.

"In the first place, the interior need not have been very brilliantly lighted: so gorgeous a piece of work as a gold and ivory statue would probably look best in a subdued light, and the light entering through the great eastern door, or rather through the great central intercolumination of the east front, would have sufficed, when reflected from the white marble pavement and walls, to give a very fair illumination to the cella.

"In this way, too, a very impressive effect would be obtained on the festival of the goddess when, owing to the special orientation of the temple, the rays of the rising sun would fall direct on the statue. The light that entered through the door was probably supplemented also by that which penetrated through the roof. The tiles were made of Parian rather than Pentelic marble, probably because of its superior transparency." Thin slabs of marble are sometimes used to this day in Byzantine churches to fill the windows instead of glass. I think I am right in saying that some of the apartments of the late Lord Leighton's house are lighted through thin slabs of alabaster.

"The proud boast of Byzes of Naxos, 'that he was the first to make tiles of marble' may well imply that he was the first to solve the difficult problem of the lighting of the interior of the temples.

"So long as they were small the door sufficed, but when they grew larger the need for some such device may have made itself felt. A temple like the Parthenon doubtless had an inner ceiling of wood, probably flat, within the sloping marble roof, but it would have been easy to arrange the panels of this ceiling so that the light should penetrate through some of them into the rooms below."

Professor Lethaby says, "No light entered the temple save from the great doors opposite the figure which must have been brilliantly illuminated by many lamps suspended about it, with its blazing eyes, delicate curls of hair, ivory flesh, shining raiment and added adornment of jewellery and painted details it went far beyond what we conceive in sculpture, it must have seemed a 'double' of the goddess herself, really dwelling in her temple, a sight of Athenæ must have been a tremendous experience."

Fallen Column of Parthenon, showing Joint Surface.

Now that many of the columns are fallen, it is easy to see the means by which the extraordinary perfection of their workmanship was attained. The drums were roughly shaped at the quarry, but made a little larger than they were intended to be, and projecting blocks were left on them for the application of levers and ropes. Their external surfaces remained in this state until after they were erected, but the joint surfaces were elaborately prepared. The principle involved in this preparation is the same that we find applied also to the square blocks of a wall, and to which Greek masonry of the best period owes the fineness of its joints.

It would be practically impossible to make the two surfaces so exact all over, and therefore the joint surface in every case is made only a few inches broad all round the edges of the drum or block, and the rest of the surface is slightly sunk.

On the surfaces of the fallen drums we can see several different varieties of work. First of all, for a few inches all round the edge, there is a perfectly smooth surface which forms the actual joint. Within this, the greater part of the drum is covered with fine marks of a tooth chisel which remain quite fresh, and, near the middle, there is a shallow circular depression showing rough punch marks. The centre of this is occupied by a square hole; and the joint has actually proved so air-tight that in some cases the wooden plug which fitted into this hole has been preserved. Some examples can be seen in the Acropolis Museum at Athens, and there is at least one in the British Museum, which I saw not more than two weeks ago.

This wooden plug was cut off flush with the surface of the drum, and in the middle was a round hole, into which a cylindrical peg was inserted, projecting so as to fit also the corresponding hole in the adjoining drum.

The peg must have served the purpose of exact adjustment when the drums were set in position; perhaps also the drum was turned round, and ground to remove any slight unevenness of the joint surfaces. The deep depression would serve to receive any superfluous marble dust that was rubbed off in the process of final adjustment.

The top of the flutings was worked on the lower part of the capital before it was set up, and the lower end of the first drum was similarly worked before being set in position. The rest of the drums were left rough until after the columns were erected, and in many unfinished temples one may still see the tops and bottoms of the flutings alone rudicated. For example, at Segesta in Sicily, and at Rhamnus and Eleusis in Attica.

Temple of Segesta, Sicily.

After the columns had been erected it was easy to stretch a line from top to bottom of each flute, and so carry them with perfect precision through the joints.

By this method also there was no risk of chipping the fine edges of the marble by setting one drum on another after the final surface was completed.

The only exception was in the case of the top joint, since the fluting above it was previously completed. Here we find the edge of the fluting bevelled away, and the real joint only beginning a little distance from the edge.

The result is a distinct dark line round the finished column which may always be seen, even when the other joints are so perfect as to escape observation.

This description of the columns, and of the manner in which they were made, will suffice to exemplify the precision of design and mechanical skill in execution that characterise the Parthenon throughout. Nothing, however, but a careful study of the forms will suffice to show the extraordinary degree of perfection in working marble that they imply. The design of these must, of course, be attributed to the architect Ictinus, but his ideas could never have been carried out without the help of a body of masons whose technical ability and scrupulous exactness were worthy of such a master.

The roof of the Parthenon, as I said before, was covered with marble, cut out in the shape of tiles; in fact, the same pattern that was used for terra cotta tiles, remains of which exist.

The building was richly decorated with sculpture—in the metopæ 4 ft. 4 in. square between the triglyphs, and in the frieze on the wall of the cella. Portions of these sculptures are in the British Museum, the Louvre, and the Museum at Athens.

In the sixth century, the Parthenon was converted into a Christian church, later it was a Latin church, and afterwards a Greek church; and, in 1460, it was converted into a mosque.

In 1687, when the Venetians captured Athens, it was damaged by a shell, which fell into a portion of the building used as a powder magazine.

In 1801, some of the sculptured slabs were removed, and are now in the British Museum.

The *Prophylæa* stood at the top of a flight of marble steps 70 ft. wide, and formed a suitable and magnificent entrance to the Acropolis at Athens.

It was built under the auspices of Pericles, designed by the architect Menesicles.

The central portion consisted of two hexastyle porticoes: the western one faced the city, the eastern one faced the Acropolis.

The columns of the porticoes of Pentelic marble were 4 ft. 6 in. in diameter, and about 29 ft. high.

The porticoes were flanked by two wings, each of which was in the form of a Doric temple. The northern one had wall paintings, the southern one was a porch or open gallery.

In front of the southern wing stood the Temple of Nike Apteros.

Nike Apteros or Winged Victory. Calicrates was the architect of this, which is of the Ionic order, having four columns at front and rear. It is quite a small building, the cella being only 13 ft. 9 in. by 12 ft. 5 in.

This temple was removed by the Turks and built into a battery.

In 1836, on the destruction of the battery, the materials were recovered and reconstructed.

ATHENS TEMPLE OF VICTORY (NIKE APTEROS).

The *Erectheum* at Athens (420-393 B.C.). Menenches was the architect.

It was erected on the site of an older temple.

The temple was regarded with special veneration by the Athenians, as it contained the sacred olive tree that Athena called forth in her contest with Poseidon, the salt well produced by the trident of Poseidon, the tomb of Cecrops, the olive wood statue of Athena Polias, the golden lamp of Callimachus, and other curiosities and spoils from the Persians.

It is an interesting example of unusual and irregular planning, due no doubt to the irregular site and the fact that it consisted of three separate shrines. It has no side colonnades.

There are three porticoes of different design, an Eastern Ionic hexastyle portico, a Northern Ionic tetrastyle portico, and a Southern caryatide portico. The Eastern portico was, probably, the principal entrance.

The doorway in this portico is of the finest workmanship, with carved consoles and carved enrichments.

The Southern portico of caryatides was probably not an entrance, but a raised tribune as it had only a narrow entrance on the east.

It has six draped female figures, 7 ft. 9 in. high, resting on a marble wall.

All the figures face Southwards, the three Western leaning on their right (outward) leg, and the three Eastward ones on the left leg. This is to correct optical effects as in the pillars of the Parthenon.

It was transformed into a church in Justinian's time, converted into a harem in Turkish times, and in the Greek Revolution, 1827, the ceiling and other parts were destroyed. Only three of the caryatides remain in position. In 1838 and 1845 repairs were executed.

The *Choragic Monument of Lysicrates* at Athens (334-335 B.C.) Erected to support a tripod as a prize for musical or athletic performances in Grecian festivals.

The circular colonnade has six columns supporting an entablature, and is crowned by a marble dome.

The *Tower of the Winds* at Athens, erected as a clepsydra or water clock internally, and as a sun dial externally.

The building is octagonal, each side facing the important points of the compass.

Corinthian columns were used in the porticoes.

The *Temple of Jupiter Olympius* at Athens stands on the site of an earlier Doric temple.

Cossutius, a Roman architect, was employed to design this temple, hence it is often designated Roman architecture.

The building was completed in 117 A.D., by Hadrian. Only fifteen columns now remain out of the original 104. The columns are 6 ft. 4 in. in diameter, and 56 ft. high.

The capitals are fine specimens of the Corinthian Order.

Greek Theatres.—The Greek theatre was generally hollowed out of the slope of a hill, and is supposed to have been unroofed. There is evidence to show that masts were set up to carry an awning. The performances took place in the daytime.

In plan it is rather more than a semi-circle, being about two-thirds of a complete circle.

The Auditorium consisted of tiers of marble seats rising one above the other, and often cut out of the rock.

The Greek theatre which was constructed more for choral than dramatic performances had a circular orchestra or dancing place, corresponding to our pit or stalls, in which the chorus chanted and danced.

The stage was long and narrow, and was the speaking place; the actors were few.

The *Theatre of Dionysius* at Athens, completed 340 B.C., in which 30,000 spectators could be accommodated is the prototype of all Greek theatres, and was one in which the plays of the great Athenian dramatists were produced.

On this occasion I am unable to touch on all the peculiarities of Grecian architecture, or to describe in detail the special forms of the mouldings which distinguished it from the architecture which came before it, and that which followed.

There is a marked difference between the sections of the mouldings, as used by the Greeks, and those used subsequently by the Romans, and also in the varieties of the ornamental sculpture, such as capitals and friezes and other features.

I am indebted for much of the material of this paper to Fergusson's *History*; Banister Fletcher's *History*; Professor Lethaby's *Popular History*; Professor Gardiner's *Ancient Athens*; and Anderson and Spier's *Greece and Rome.*

DISCUSSION.

Mr. G. A. T. Middleton, A.R.I.B.A. (Hon. Librarian), in proposing a vote of thanks to Professor Scott, said he was a very old friend whom he was glad to see again. This pleasure was enhanced by the fact that the lecture they had just listened to afforded him an opportunity of airing a few opinions of his own which were not entirely in conformity with Professor Scott's. The subject was a somewhat controversial one, and if he disagreed with the lecturer in some particulars he knew he would take it in good part. The Professor had stated that there was no cella to the Temple of Ceres at Pæstum, but there was similarly no cella at Segesta, the fact being clearly shown by the photograph thrown on the screen. Both at Pæstum in Italy, and Segesta in Sicily, it was now generally supposed that it had been the intention to construct a cella, but that the building had not proceeded so far when work was interrupted by Hannibal's invasion, and they got no further than the columns with their entablature and pediments, the custom being that the external peristyle columns were erected first and that the cella followed later. The evidence was clear that Segesta was an interrupted building, the flutes in the columns having never been cut. Another example of a building without a cella was the Temple of Neptune at Pæstum, where it was also concluded that the cella wall was to have been added in due course. There was still a great controversy going on in regard to the optical refinements mentioned by Professor Scott. It was well known that they were first called optical refinements by Penrose, but the latter had admitted nearly twenty years ago that he was not responsible for their discovery, which was made by Pennethorne. Penrose, however, was the first to make careful measurements of them, but it was Pennethorne who was the first to note the horizontal curves at the Parthenon, and he also similarly discovered horizontal curves in the Temple at Edfou in Egypt, which created a similar perspective effect of slightly increased length to the building. The theory had been put forward by Mr. W. H. Goodyear, and was steadily gaining adherence, being almost universally accepted in the United States, that these curves were not so much optical refinements as deliberate deceptions intended to produce increased perspective effect ; but unquestionably divergencies of opinion existed upon the subject.

With regard to the tracing of the Doric order to its prototype, they had seen photographs of some of the tombs at Beni-Hassan, and a rough sketch of an Asiatic hut, and a comparison of the two appeared to show quite clearly that each of the tombs was a reproduction of the hut so far as it could possibly be cut in the solid rock. The type of hut shown was a simple rectangular one of a description to be seen around Alexandria at the present day, with a distyle verandah or portico in front, having projecting wings. This type of hut must have existed for a very long period, and it was in his opinion more reasonable that both the Greek Doric order and the work at Beni-Hassan should have been separately derived from a type which was continuously existent for very many centuries than that one should have been derived from the other. The date of the tombs at Beni-Hassan was placed at 2,300 B.C., and the earliest Doric work at 600 B.C., with nothing to span the gap or to explain the connection, especially in view of the enormous distance between the two places.

COL. F. S. LESLIE, R.E. (Hon. Secretary), having seconded the vote of thanks.

MR. H. FREYBERG, F.S.I. (Member), said he had arrived somewhat late and had unfortunately missed a part of the lecture, but what he had heard he had much appreciated especially the manner in which the lecturer gave his information which was the result of many years of study. He had shown them that in the study of architecture there was no detail which was too small for the student to observe, and often it was the amount of study devoted to the minor points which elaborated the way in which the construction was carried out in the old days. It was unfortunately true that they knew very little about the constructional methods of those great builders of the past, whose efforts had left them buildings of such eminence. The latter were now beginning to be treated with the respect due to them, and he thought that neither the Turks nor the Italians would be allowed to use a Greek temple as a powder magazine. It behoved them all, and especially the younger members of the profession, to learn what they could from the study of those great monuments which were unfortunately so few in number, and unless the purse was unlimited somewhat inaccessible to the young and aspiring architect. The speaker concluded by expressing his keen pleasure in all that the lecturer had said.

Mr. Arthur C. Russell (Member), said he wished to add his support to the congratulations which had been extended to the lecturer, and referred to the criticism which Mr. Middleton had made, and which was much appreciated by the younger members of the profession, on account of the stimulous which it gave to study. Professor Scott had mentioned in the early part of his lecture that the Greeks knew the purpose of the arch, but he had omitted to tell them why they did not continue its use in their buildings instead of leaving it for the Romans to develop. Possibly they ought to be grateful to the Greeks for not introducing the arcuated form into their buildings, with the result, that what is undoubtedly the most beautiful style of architecture, because of its simplicity and harmony of parts, was very highly developed and destined to become the parent or root of the present much used renaissance.

Mr. R. B. Ling, A.R.I.B.A. (Member), advanced the theory in regard to the lighting of the temples, that possibly the Greeks, not having a plentiful supply of large sized timber, got over the difficulty of roofing in their early work by resting the roof timbers on the cella wall and external colonnade, and projecting them about the same distance over the inside, when the supported parts, with the weight of the earthy compost used to form the roof covering, would sustain the free ends. If this arrangement was also carried out at the rear of the building, it would leave an opening in the middle of the cella, of say, about one-third its length, which during the season of inclement weather, might be covered over by a velarium of coloured fabric, similar to the painted representation in one of the Egyptian rock-cut tombs. It is accepted that timber was largely used in the construction of the roofs of the later temples, and towards the centre of the span there would have been a considerable sag, due to the weight of the tile covering, etc., in a beam of conveniently obtainable dimensions, so probably a virtue was made of necessity and the weight reduced by making the building hypæthral. He noticed in the slide depicting a restoration of a wooden temple from Asia Minor, that the beams or rafters were apparently placed singly and projecting over the pronaos, which gave rise to the theory he had put forward.

Professor W. A. Scott, A.R.I.B.A., A.R.H.A. (Member), in reply said he thought they were all aware that there was no cella at Segesta. The really interesting point which Mr. Middleton had emphasized was the fact that the outer columns were completed before anything was done to the inner portion of the building itself. Mr. Middleton had also spoken of the enhanced perspective effect obtained by the horizontal curves. This also was a very well-known fact. He welcomed criticism of all kinds, and referred to Mr. Middleton's long and arduous work in connection with research. Criticism raised discussion, and led the student to desire more knowledge upon the subject, and to enquire into the pros and cons of the matter more deeply. It was better for the student to examine all the authorities and form his own conclusions, and so, upon a later occasion, he could add his share to discussion. It was impossible to say that the Greeks did not use the arch. They must have been aware of it, and, having regard to the development of the Grecian style, perhaps it was as well that it was left to the Romans, who made it so remarkable a feature in their architecture that its influence is strongly felt to the present day. In conclusion, he hoped that more architectural students would enter upon the field of research, and expressed his appreciation of the manner in which his remarks had been received.

Students' Competitions,

Quarter ending September 29th, 1912.

Competitors are requested to note that architectural sketches made at any time during the present Session may be submitted, and not only those made between June and September as stated in the notice on page 311 of the *Journal*.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Sir,

The "Driver" Fund.

I have much pleasure in telling you that the total money received, including the contribution from the Architectural Association, is £691 19*s*. 0*d*.

The money has now been invested, and payments of £1 per week will be made to Mrs. Driver during the next few years, and the children's school fees will be paid until they leave school. The disposal of the balance of the fund, which will probably amount to about £350 will then be dealt with.

With very many thanks to your Society for its help.

4, Raymond Buildings,
Gray's Inn, W.C.,
June 19*th*, 1912.

Yours very faithfully,
Arthur Keen.

Architects and the Corporate Sense.

The necessity for a Code of Ethics.

It is a somewhat remarkable coincidence that almost at the same moment that the Secretary of The Society of Architects was reading a paper on "Professional Ethics" before the Society in London, the Hon. Secretary of the Transvaal Institute of Architects, Mr. M. J. Harris, M.S.A. was reading a similar paper before his Institute.

In the course of his remarks, Mr. Harris says, by the corporate sense in its relation to architects, I mean that civic conscience the existence of which in architects is, or should be, betokened by a regard for the duties we owe to one another, to our profession, and to the State; and by a consciousness of what is due to our art, and to architects collectively, by the State and public. The architect—as we understand the term—is a comparatively modern development, no longer merely the artist builder directing his skilled craftsmen, but a specialist having many complex responsibilities and faced with a multitude of problems undreamed of in the simpler civilizations of former days. And, similarly, many problems which confront the corporate sense of the modern architect are of a new nature, solution of which cannot be attained by any study of precedent.

We are, unfortunately, only too familiar with those instances in our profession where self appears to be the one consideration; too well aware of that attitude which, in effect, cries aloud, "I am the artist, and in art there is My school and none other"; of these instances where our code of ethics and of professional usages have been dishonourably set at naught. Their hand set against their brethren, these are the Ishmaels of our profession—each of them the extant barbarian whose selfish attitude would constitute him the base of the evolutionary argument. It is, however, a satisfactory evidence of the extent to which the corporate sense does obtain among us that throughout the civilized world architects have banded together in associations and institutes for the furtherance of common professional aims. Standards of qualification have been set up; codes determined embodying, from wide experience, the minimum fees or charges compatible with honourable practice; clearly defined rules have been laid down demanding our proper conduct of the high responsibilities which fall to our lot in discharging the duties we owe to those who entrust us with the direction and care of their enterprise and interests. The recognition of a code of ethics among all artists and professional men is, in fact, universal. If this were not so, if artists and professional men—the seers and prophets of our day—were not alive to the dangers of the increasing commercial tendency of this age, we should all—ere long—be shrieking our wares in the market place, and bidding against one another, in values of intellect and of worth of soul, to obtain the favour of popular patronage. How much intellect and how much soul would survive the market? It should clearly be seen that the code of ethics is a necessity in the highest interests of art and of civilization.

Such are the grounds on which our associations and institutes are rightly jealous of any infringement on the safeguards afforded by the code. Ostracism from the ranks of his fellow-artists is the extreme penalty meted out to the offender. But, in certain flagrant cases of callous offence, ostracism is obviously no punishment. The law will punish actual crime, but cannot be invoked against those who infringe certain of the professional safeguards. If our previous statement—that these safeguards are necessary in the highest interests of art and of civilization—be established, then our law is proved inadequate to the needs of our time. It is to the corporate sense among us that we must look for a formulation of those needs that shall inform State and public as to the urgency, on grounds of national import, of newer legislation. When, by such formulation, our corporate duty has been performed, I trust that we shall not need to labour the point in regard to the duty of the State towards furthering and encouraging the honourable civic ideals of associated professional men and artists. This question of encouragement by the State brings us naturally to a consideration of the State policy in regard to public buildings, as affecting the evolution of a national architecture. Those of us whose possession of the corporate sense is not merely fragmental will always hold that the public buildings of a country should represent the highest artistic talent in that country, and that that talent should be discovered in every instance—or introduced—by means of competition open to every artist. We do not suggest that such competition be limited to the artists of the country, but that only the very highest obtainable talent should suffice.

Strange as it may appear to a succeeding generation of artists our State policy in regard to the design of its buildings has alternated from—in one favoured instance—the bestowal of patronage to the departmental method. More strangely still, the departmental method has been restricted to the designing of its buildings, and has not been extended to their construction, which latter is still carried out under the system of competitive tender by builders. One would have thought it more logical to carry out construction departmentally, and to obtain the designs—in which the personal factor is of vital importance—by the competitive system. A clear case of topsy-turveyism ! And, what is more serious, a clear indication that the Government of our country is aware of, or indifferent to, the high desirability that its architect citizens be given that incentive to emulation in their art which can be afforded by the holding of open competition whenever one of the public buildings of the country is to be designed ; that, in short, the Government of our country is unaware of, or indifferent to, the need for its encouragement—and not discouragement—in the true development of a South African national architecture.

Nepotism and Court favour are, happily, less evident here than in older countries, but they have made their appearance and—have been justified on grounds of art! The competitive system, where it has failed in the past, has failed for lack of that proper honest use without which every instrument must fail. And thus we have come to a further demand on the corporate sense among us, requiring the services of our collective and individual influence to arouse public opinion on the means now adopted in the production of its national architecture.

But our responsibilities and duties do not end there. We cannot hope for sympathy in our strivings for the highest expression in art, unless we carry the understanding of the public as to the aims and advantages of art.

Education within our profession in order to maintain a high standard of ability among artists who may be trained within our own borders; education beyond the confines of our profession, the better to counteract the uncertain tendencies of a democracy without culture. It is our duty as architects to see to it that our educational systems shall not produce a race artistically atrophied. South Africans have been decried as an inartistic, unimaginative, and unmusical race. We know it is not so. There is, nevertheless, much to be done in certain quarters to overcome the apathy which owes its rise to an impression that art is the exclusive interest of the lank-haired, the bespectacled, and the anaemic. We live in a vigorous Colonial atmosphere, and, where academic abstractions fail to attract, the methods of the constructive artist may succeed in leading to higher things. In connection with the question of education it would be impossible to pass without appreciative reference the efforts made by our Government, in the institution of the excellent classes now conducted at the various Schools of Technology, and at so-called "Trades Schools" throughout the country. Nor can appreciative mention be withheld from the individual action of Mr. Herbert Baker in founding a scholarship enabling selected South African students to attend the British School at Rome. It would, of course, be easy to over-estimate the value of classical study; some of the most impressive architecture in the world was produced without the slighest inspiration from the classic tradition, or by men who had never travelled farther than a hundred miles from their native town; nevertheless the source of culture thus made accessible to the more fortunate of our students has opened up certain possibilities for which they, and we, are grateful to Mr. Herbert Baker, who has given out of his success to the honour of the profession to which he belongs.

Referring to town planning, the lack of any corporate power to exert this influence is sadly evident, even in the comparatively young town of Johannesburg. Many a fine street is terminated by a mean vista of hideous structures—I could name many instances—and the worst feature of all is that surviving evidence of the old-time

Boer prejudice against the Johannesburg population—"The Fort." The dominant feature of our landscape is the gaol, and we go our daily round, and send our children to their schools, under that frowning reminder of the punishment that awaits transgression of the law. When our corporate sense obtains its full power we may prevail on the conscience of those responsible to allow us a better and more inspiring outlook.

I propose to conclude with some considerations as to the attitude of that mentor of the public—the Press. It is distinctly depressing to recall that in all the discussion which has taken place at various times on matters deeply affecting the practice of our art, the main attitude of the Press—or at all events a large portion of that which comes under our notice in Johannesburg and Pretoria—is distinctly unfriendly to the South African architect. It matters not that he it was who designed, not discreditably we hope, the many fine buildings erected at Capetown, Durban, Port Elizabeth, and elsewhere throughout the country—to say nothing of Johannesburg and Pretoria—during the past twenty years. We cannot, however, attain our just ends save with the co-operation of a just and honest Press. In the existence of such —"a righteous remnant"—is our hope. The Press—the greatest factor in the evolution of democracy—is the indispensable ally, without whose aid we cannot hope to succeed in our plea to the fair sense of democracy. When our corporate sense has been endowed with corporate power, we shall perhaps have a further means wherewith to persuade Government, Municipalities and people that local art should be fostered and encouraged—not discouraged—as "the visible flower of civilization, reflecting honour upon the race that has produced it."

The Loan Library.

Members and Students having books on loan are requested to return them to the Hon. Librarian at once for stocktaking.

Register of Medallists.

Our attention has been called to an omission in the Register of Gold Medallists on page 125 of the *Year Book*, 1912.

The name of Mr. J. J. Lish, of Newcastle-upon-Tyne, one of the founders of the Society, and a Past President, should have been included in the list of those upon whom the Gold Medal has been conferred by the Council for services rendered to the Society.

Mr. Lish was one of the pioneers of the Registration movement, and for many years took an active part in the promotion of the cause, and in the work of the Society.

Some Notes on the Travelling Studentship Drawings, 1912.

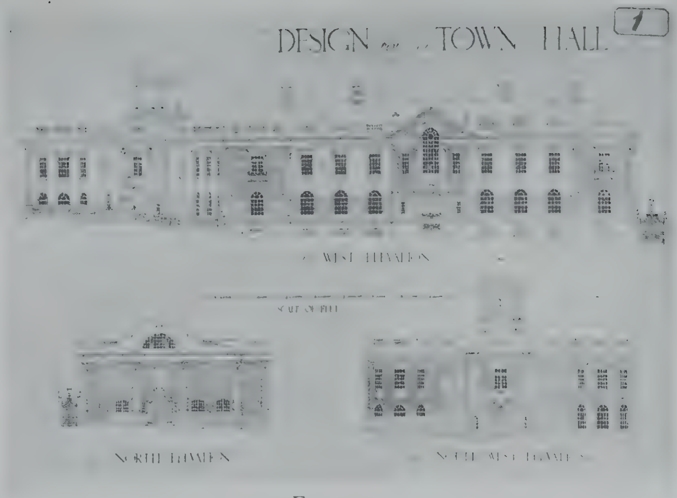
No. 1.—Although this plan shows considerable merit in parts, it is in some respects weak. Part of the frontage of the site being a quadrant of a large circular space, presumably in the heart of a town, it naturally indicates the situation for the principal entrance to the business portion of the Municipal Buildings. The competitor has felt this, for he has selected this point for his central and dominating feature of architectural interest, which invites the public to enter there for the dispatch of their civic business, only to find themselves lost in a handsome vestibule which apparently leads to nowhere in particular. The Council Chamber, Committee Rooms, and Public Official's offices should have been grouped round the quadrant, with the main entrance as planned by the competitor in respect of its situation ; then the principal elevation could have been made to express the interior arrangements, and the student would not have been led to violate a principal canon of architectural composition.

By an artifice of draughtsmanship the perspective elevation has been made to look reasonable, but in execution the result would have been disappointing. Had an attic storey been added to the quadrant, returned on the flanks to stop the roofs of the wings, with the tower and cupola rising from its centre, unity of composition would have resulted, concentrated on the main entrance. Taking the business and social departments separately, they may be said to have been fairly well considered except for a few minor defects. The Hall, Vestibule, and Grand staircase are good features, but the approach to the seats of the Council Chamber has not been well considered.

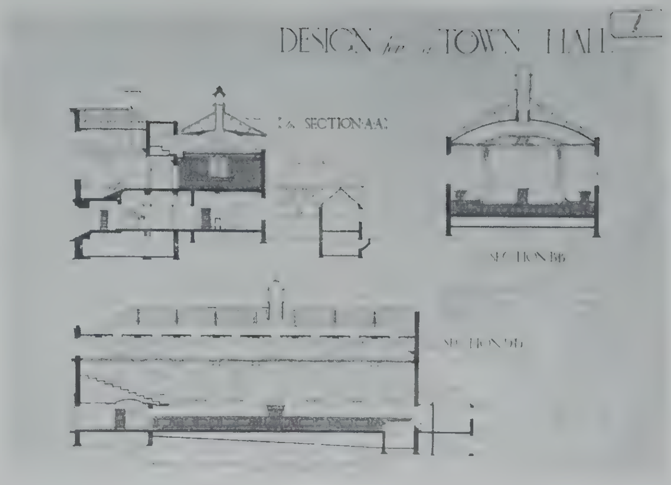
The Mayor, being the chief citizen, should not have to wander through passages and round the Council Chamber's seats to reach his place. In two cases the conveniences are entered from the main corridors instead of from their respective cloak rooms. If the kitchen and offices are intended to provide for banquets in the public hall, they would prove quite inadequate with no proper service arrangements, the communication between which and the hall are moreover throttled by a narrow passage and flight of steps. The access to the public and press galleries is inconvenient and tortuous.

"Disinfectants,"—unsavoury in odour and name need not have been so prominently brought forward, and would have been better relegated to a yard. A pedestal closet in the caretaker's bathroom, although a common arrangement in Canada and the United States of America, is considered by the critic to be an abomination and to mark a state of imperfect civilization.

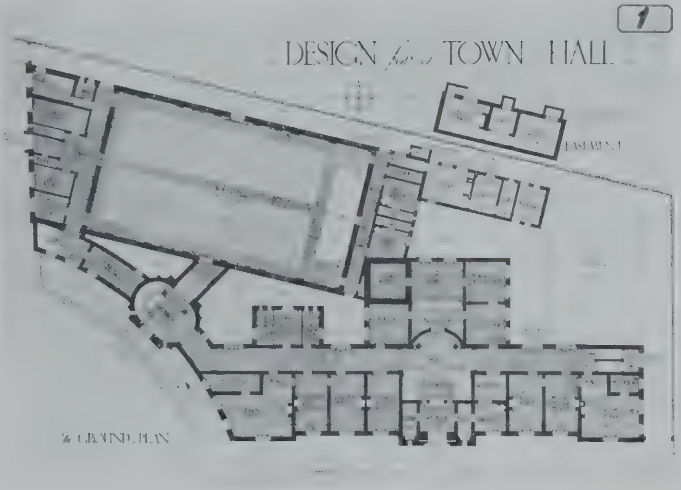
The drawings, particularly the detail sketch, are bold, spirited and effective. The elevations, considered as separate compositions, are excellent.



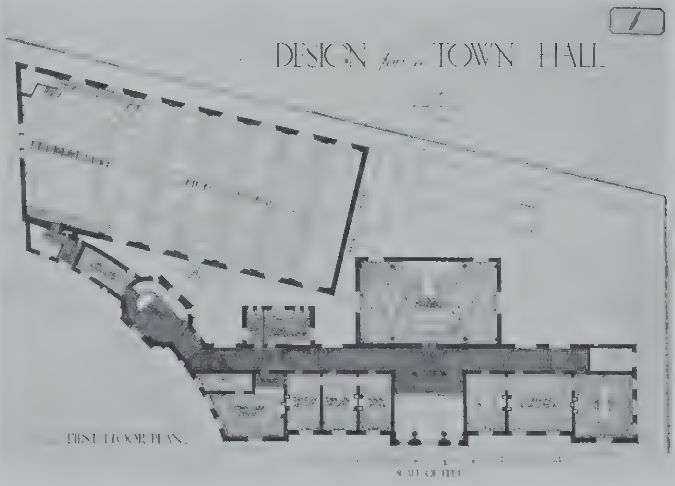
ELEVATIONS.



SECTIONS.



GROUND PLAN



FIRST FLOOR PLAN.

THE SOCIETY OF ARCHITECTS' TRAVELLING STUDENTSHIP, 1912. WINNING DESIGN, BY MR. F. MORRALL MADDOX.

No. 2.—The plan is compact and symmetrical while the elevations are monumental and fairly correct as regards details. It is expected some difficulty would have been experienced as regards the disposal of rainwater. The Town Clerk's and Borough Engineer's (or Surveyor's) Departments would have been better on the ground floor. Access to the public and press galleries is as in No. 1, inconvenient and tortuous. It would have been better to have taken the foul drainage shown at the N.E. corner, out on the east side rather than under the Accountant's clerks' room. Access to the Mayor's seat in the Council Chamber is inconvenient. The Kitchen on the Ground Floor is badly lighted, and the adjoining store is not lighted at all. No lavatories are shown to the male artistes' dressing room. A pedestal closet is placed in the caretaker's bathroom, as in No. 1, and the same remarks apply.

No. 3.—The general idea as regards planning is the best of the four sets submitted, although the Rating Department has unfortunately been forgotten. The bedrooms in the caretaker's quarters are on too lavish a scale, and little or no thought has been given to the sub-division of the spaces so lettered. A kitchen 26 ft. by 25 ft. seems needlessly large even to serve the floor below for public functions; in any case the range is too far from the light. The Mayor's parlour as in No. 1 and 2 is too far from his seat in the Council Chamber, and the remarks made on this point in the previous criticisms apply in this case. The arrangements for access of the public to the Council Chamber do not appear to have been very thoroughly considered. The sanitary annexes on the hospital pattern are good. The public halls and accessories have been very well thought out as has parts of the elevations, although the lower pediment over the entrance to the Town Hall is incorrect, the upper one mean and too obtuse. It is a pity the competitor did not complete sheet No. 4 and the detail sheet.

No. 4.—The plan, elevations and draughtsmanship are original in the extreme, even to the verge of eccentricity, and at the expense of convenience and administrative possibilities. Still, it cannot be denied that in certain environments, such a composition would have presented interesting and picturesque features. The central tower with its symmetrical wings and rectangular but unsymmetrical extensions might have produced a very charming effect. The Sanitary Inspector's Department should have been on the ground floor, and the Rating Department appears to have been forgotten. The Medical Officer's Department is inadequate, and the Committee Rooms absurd. The main access to the public halls with ladies' and men's cloak rooms, and to the public hall gallery should have been kept entirely separate from the business part of the establishment; otherwise, the accessories and ample exits, caretaker's and artistes' entrances leave scarcely anything to be desired as regards planning. The details in connection with the Council Chamber do not appear to have been considered at all, and no gallery for the public has been provided. There is too much foul drainage beneath the building. No provision has been made for lighting the caretaker's corridor, the kitchen is ill-lighted, and the range too far from the source of light. The sitting room is very badly lighted, and one bedroom has no window. There is a pedestal closet in the bath room, an arrangement which is to be deprecated. The detail sheet is crude and imperfect.

The foregoing criticisms are made in a kindly spirit for the instruction and improvement of the competitors. The site was a difficult one, indeed all hypothetical sites present unusual difficulties. The requirements of modern municipal buildings are very complicated and invite a very special study of the needs of those who have to work therein. As an example, let us examine the arrangements of a typical rate collector's room; rate collectors attend to receive rates from a continuous stream of ratepayers, offered on stated days during limited hours; this suggests a long room divided in its length by a counter with two or more collectors' desks at right angles to it, with an entrance and exit at opposite ends, both immediately accessible to the street. Similarly the competitors should have placed themselves in the position of all the other officials to consider and analyse their respective work and provide for its rapid and efficient despatch. Even such a minor point as the assumption of the chair by the Mayor should have received attention, for he desires to commence to preside with dignity and comfort; moreover, many present-day councillors are men of elementary natures, who will not brook with equanimity being cleared out of the way by the mace bearer to permit the approach of their chief citizen.

In conclusion, it may be said that the competitors somewhat failed to view their designs as comprehensive wholes, while at the same time paying attention to minor points of planning and detail. They are, however, deserving of all praise for the good work exhibited, particularly as regards draughtsmanship, and the competition may be considered a most useful exercise for all those who took part in it.

Mr. Frank Morrall Maddox, the winner of the Society's Travelling Studentship, 1912, served his articles with Mr. George Dickens-Lewis, M.S.A., of Shrewsbury, and in 1907 was successful in winning The Society of Architects' Architectural Scholarship. At the expiration of his articles he obtained an appointment with Mr. Frank Bellis, of Bangor, to assist him on his competitive design for the Normal College Hostels at Bangor. After temporarily assisting Mr. W. Everard Healey, of Sutton Coldfield, Mr. Maddox returned to his old office in 1909 (Messrs. Dickens-Lewis & Haymes, M.M.S.A.), to assist on competition drawings for the National Museum of Wales, Cardiff. At this time he assisted in the carrying out of much important work, including the restoration and additions to the Owain Glyndwr Parliament House at Machynlleth. In June last he left Shrewsbury to take up his duties as Chief Architectural Assistant to Mr. H. Slanton Webber, F.S.I., of Maidenhead.

The Super-Registration of Architects.

By H. Guicharde Todd, F.S.A. (Scot.), M.S.A.

THE ingenuous leading article which appeared in *The Builder* of the 17th May, and was reprinted in The Society of Architects' Journal for June, under the title "Registration and Personal Qualification," seems to have invited no comment, though it contains some startling proposals and indeterminate opinions which were it not for their obvious fatuity would be a direct menace to the orderly and equitable evolution of a measure of Registration in the Architectural Profession.

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The article is professedly on the advisability of "so arranging our methods as to encourage the right type of man to enter the profession, and to discourage the wrong type"; and no subject is more worthy of the attention of architects who have the welfare of the profession at heart. It is suggested that "a process of selection should be instituted," so that "no student ought to be encouraged or even allowed to propose to be an architect or to present himself for the Institute Preliminary Examination unless he has given proof of a special taste and aptitude." Headmasters and college tutors "might be asked for some definite report or opinion which would enable a correct judgment to be formed as to his general tastes, aptitudes, and type of mind. . . . In addition to this it might be well if some more definite process of selection was instituted by the profession itself.

The writer of the article states that candidates for the navy, have to satisfy personally a Board of Admirals, that they are the material out of which the right type of officer can be made before they are allowed to take the first step towards this career, and he suggests that although the same method might not altogether apply to candidates for the architectural profession there seems no reason why something on the same lines should not be attempted—**possibly a special preliminary school from which no student would be allowed to pass without the certificate of a board of qualified judges that he had the necessary personal qualifications.* The period of observation need not be long, and those failing to satisfy the board within this time would be saved from wasting further time in an unsuitable profession."

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The Members of The Society of Architects have fully considered the practicability of Registration in detail, and this suggested Super-Registration must come as a shock to some but as a relief to most.

If a majority of the profession should support such Super-Registration, it may be taken for granted that the policy of Registration is doomed, but it is inconceivable that *The Builder* will return to the subject of a preliminary school or that the profession will take it up.

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* The italics are mine. H. G. T.

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The writer of the article is hardly modest in his demands. He asks for power for the profession, not merely to examine and register all who wish to practise as architects, but to bar such as it does not want to examine.

The profession is to become a body to which admission is necessary before any examinations can be taken. There is to be a pre-preliminary stage with conditions which would revolutionize the whole circumstances of the profession. In only one profession, reference to which is relevant, the Bar, is there admission, examination, and election, and any proposal to apply similar powers to the Architectural Profession with the added necessity for somewhat indefinable and uncertain " personal qualifications," would in my opinion be futile, and be rejected by all concerned.

No Government would delegate such enormous powers to the executive of the widespread and hitherto quite unregulated profession of architecture.

To support such a proposal would be to deal a deadly blow at Registration and it is to be hoped that no Registrationists will be side-tracked from the legitimate and reasonable policy which has heretofore been advocated.

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The Builder says, " It is so much easier to teach or examine in architecture or to discuss it with those who have a natural instinct for it than with those who have not. The whole question is simplified if a barrier beyond which the personally unsuitable cannot pass is erected at the beginning of the student's career rather than at the end."

Therefore " a process of selection should be instituted, and this process, we think, cannot begin at too early a stage in the life of the student."

This seems to almost suggest the possibility of a strike of teachers of Architecture for easier conditions of employment and to ensure the elimination of all students whom it would not be easy to teach. A board of " qualified judges " in a special preliminary school are to examine students at the earliest possible stage of their studentship to discover if they have that " natural instinct " for architecture which is such an essential of personal qualification.

It is obvious that the discovery of the elusive quality of " natural instinct " which cannot begin at too early a stage of studentship will very largely depend upon the " natural instinct " of the above mentioned board of fully qualified judges, collectively and individually, and the emphasis put upon ease in the article suggests the possibility that if the judges could not easily decide whether an early stage student had " natural instinct " or not, they would turn him out as " it is so much easier to teach or examine in architecture . . . with those who have a natural instinct for it."

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The "natural instinct" being approved, the article says, "it would be far easier to arrange a satisfactory system of education and to frame a reasonable examination or other method of ascertaining whether they have acquired sufficient technical knowledge and skill to justify their Registration."

From this it will be seen that the possession of "natural instinct," or even the development of this instinct, will not necessarily lead to Registration, although it will be an essential of Super-Registration. The student will have to acquire sufficient technical knowledge and skill before he can be registered, and if he does not it is to be presumed that he will not be registered, and that his time will have been wasted in the very way which the contributor to *The Builder* deplores.

It will be possible, in fact it will be necessary, for students to come to London (probably to the vicinity of Westminster Abbey), from the extremities of the kingdom, to study at this special preliminary school, and pass in view before the august board of "qualified judges" before returning to cultivate their certified sparks of natural genius.

That is, of course, subject to the approval of the originator of this scheme who says nothing about the training of students when the divine spark has been discovered.

The general tone of the article shows a tendency towards the centralization of Architectural study, and the progenitor of this educational idea may have some scheme for the segregation of Architectural Students, or it may be that special preliminary schools might be proposed in the existing educational centres and attached to more advanced Architectural Colleges.

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Any Registration proposals which involved a centralization of Architectural education and the elimination of pupilage would stand a very small chance of becoming law, and such an upheaval of procedure would be very unlikely to gain the support of the great body of practitioners. It would appear that the new born enthusiasm for Registration has outstripped the old objection to that policy in intensity, and has gone from one extreme to the other.

Some architects believe that Registration will be fatal to Art in Architecture, others that it cannot harm it, some that the necessary impetus given to study can only affect it in its favour, but now it is proposed that Registration should primarily foster Art, and secondly, frame a reasonable examination to "ascertain whether students have acquired sufficient technical knowledge and skill to justify their Registration."

This ideal is worthy of the highest commendation, but the proposed method of its consummation is puerile and unworkable. Naval Officers are servants of the King, and through his Board of Admirals he is justified in choosing and selecting as he is advised. The qualifications necessary for the making of a good seaman and commander are essentially different from those necessary for the making of a good architect, and no subtle question of "natural instinct" or aptitude of taste in the elusive qualities of Art complicate the issue. The writer of the article apparently acknowledges this to some extent but merely puts a Board of Architects in place of a Board of Naval Officers.

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An alternative scheme, designed to foster the study of design in Architecture and keep the student under the eye of any central Registration Authority, was outlined by the present writer in the *Journal of The Society of Architects* some time ago, *when he suggested that, "the Registration machinery could be utilized to regulate private study, and if all pupils were given a choice of subjects for a complete design to be prepared and submitted in each year of pupilage, and these designs were criticized firstly by the Local Society, and secondly by the Central Authority, a great impulse would be given to the study of design, not only in the case of pupils, but of the profession generally. Such a system could be amplified as necessary, and the submission of measured drawings, sketches, and working drawings would give the Central Authority a very clear understanding of the working of the profession." Under such a scheme as this it is obvious that students who had clearly mistaken their vocation might be *advised* to withdraw.

The writer further stated that "This educational idea might be developed so that no final examination would be necessary, and on the completion of satisfactory articles, training, and experience, the candidate, if approved, would apply for Registration and a diploma of efficiency from the Central Authority or Council, election to be by ballot of the Council on the merits of the candidate as registered during the years of his pupilage or training. Such registration would entitle the individual to practise and describe himself as an architect, but admission to existing examining bodies would remain as at present. The suggested supervision of students' work would really be examination of a protracted and logical description, and likely to lead to general efficiency."

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The suggestion made in *The Builder* would be very unlikely to gain the support of those practising Architects, having children to provide for, seeing that the average architect has often little to bequeath beyond a practice which the labours of a lifetime have formed, and it can hardly be expected that he or even any super-architect plentifully endowed with "natural instinct" will be prepared to sign away what may be the only inheritance he may have for a son or sons, who may have but little natural instinct for Architecture, but who might be able to carry on the practice and be assured of easy circumstances at least.

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*April, 1911. Vol. IV., new series, page 222, "Education, Examination and Registration," by H. G. Todd.

The writer of the article appears to think such self-sacrifice possible, and yet, in the name of Architectural Art, makes a suggestion which breathes selfishness naked and unashamed. The suggestion is to make the Architectural profession a closed body of the most exclusive order, a profession to which no entrance would be possible, however great the natural instinct, without the golden key which would undoubtedly be necessary with any system of preliminary schools and the unavoidable centralization of preliminary study at least.

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The idea of examining a student before he has studied is a new one,—the semi-analogy of naval cadets notwithstanding,—and architects will do well to leave the pioneer work of finding if there is anything in it to some other profession. Let Medical Men and Lawyers work the matter out. It is clear that special aptitude and natural instinct are necessary in these professions, but it is equally clear that the level head and receptive mind are as necessary and probably more to be relied upon than any natural intuitive powers, valuable though they may be, and too much relied upon as they generally are.

It may be suggested, openly and without fear of contradiction (as no architect will think *himself* included !), that many of our moderately successful and well-known architects, now in lucrative practice, can make no claim to the possession of any natural instinct whatever. At least the chances are that any such claims would not be acknowledged by the board of qualified judges above mentioned, unless indeed, as is quite possible, they themselves constituted the said board.

To examine students before they have studied is to ignore the whole functions of education, to be oblivious to all the powers of environment and the influence of the elder over the younger, and to censure that system of education on which human progress has depended so materially and so long. It would show a hopeless and helpless philosophy, a lack of belief in human power or mental adaptation, and a surrender to the crushing and baneful faith of predestination. Genius has been described as " an infinite capacity for taking pains," and although this may not be a very accurate definition, it is one which applies to the practice of architecture and must inevitably be the basis of any Registration qualification. Art can have nothing to do with Registration, but Registration can have a very great deal to do with Art. No powers will ever be conferred upon any registering authority to allow them to refuse registration to such as study architecture, and by " taking pains " are able to produce a fair design even if the design be devoid of real merit or originality, provided that the candidate has the architectural " knowledge and technical training " which, the contributor to *The Builder* says, is " a vain thing " without " the requisite personal qualifications ! "

Registration can make the study of Architectural Art obligatory, and by doing so will raise the standard of Architectural efficiency, but the reason put forward as making Registration necessary must be that the Architect is a man of affairs,—other people's affairs,—and as such should be registered responsible and efficient.

Powers of Registration will hardly be granted on the grounds that only such as have *lisped* artistic philosophy and gems of criticism in their nurses' arms are worthy of registration and practising Architecture.

In the words of the article in *The Builder*, "the whole question . . . . must be considered from the broadest possible point of view" !

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The Builder article is worthy of note for two reasons, firstly, because attention is drawn to a most important subject deserving of all sympathetic consideration, and secondly, because the manner of putting forward that subject would, in the ordinary political sphere, he considered with suspicion as to its motive.

It may be described as dangerous to the progress of the policy of Registration and as introducing an insidious confusing of the issues. It makes a suggestion which would necessitate impossible demands being made for its completion and if that completion were ever achieved it would mean incalculable injustice.

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" It is an error to think that there are few men born with the faculty of discerning the ideas offered to them, and that the greater part lose their time and pains in endeavouring to conquer the innate idleness of their minds. The greater number, on the contrary, appear equally well organized to think and retain with promptness and facility. It is a talent as natural to man as flying to birds, running to horses, and ferocity to savage wild beasts. The life of the soul is in its activity and industry, whence it has received the attributes of a celestial origin. Minds that are stupid and incapable of science, are in the order of nature to be regarded as monsters and other extraordinary phenomena : minds of this sort are rare. Hence, I conclude that there are great resources to be found in children, which are suffered to vanish with their years. *It is evident, therefore, that it is not of nature, but of our own negligence we ought to complain.*"—(QUINTILIAN.)

Reviews.

The Principles of Structural Mechanics. By Percy J. Waldram. London: B. T. Batsford, 94, High Holborn. Price 7*s.* 6*d.* net.

There is considerable originality of style in this elementary work and a directness of expression that will appeal to many readers. It covers a fairly wide ground and will be found very useful to young architects. The fundamental principles of structural mechanics are illustrated by simple models which any ingenious youth may construct for himself, and the subject is introduced gradually so that even a beginner cannot fail to follow the instruction that is given. Considerable space is devoted to the principles of leverage and turning moments as a proper understanding of these greatly simplifies the subsequent work. The chapters on abbreviated methods of calculation by means of logarithims and the slide rule may not be found so inviting, but they lead up consistently to the application of graphic methods for finding stresses and enable the funicular polygon to be explained in a very simple manner. Stress is rightly laid upon the natural law that every force induces a corresponding reaction, and consequently that every bending moment within the limits of ultimate strength produces an equal resistance moment. A convenient method is shown for setting off the theoretical length of the outer plates of a girder with several plates in the flanges, but to be quite safe it is usual in practice to add half the length of a joint cover plate beyond the theoretical outline. A curious mishap occurs on p. 127, where the bending moments are stated to be $\frac{x \times y}{OH}$ while the errata slip, facing the first chapter, says for $\frac{x \times 7}{OH}$ read $\frac{\frac{1}{x} \times \frac{1}{7}}{OH}$ whereas it should be read $\frac{\frac{1}{x} \times \frac{1}{y}}{OH}$ And again the errata slip says for $\frac{2 \times 2}{OH}$ read $\frac{\frac{1}{2} \times \frac{1}{2}}{OH}$ but to be clear it should be $\frac{\frac{1}{2} \times \frac{1}{2}}{4}$ An erratum not mentioned is on p. 117, for $L = \frac{1}{4}$, read $L = \frac{1}{2}$. On p. 200 it is argued that the distributed load in cwts. that will produce a deflection of $\frac{1}{40}$ in. per ft. of span of a fir beam will be given by the formula $W = \frac{bd^3}{S^3}$ which would give for a 6 in. by 4 in. beam 10 ft. span a maximum safe load of $\frac{4 \times 6^3}{10^3} = 0{\cdot}864$ cwts., but there must be a coefficient omitted in the formula because it would actually require about 10 or 11 cwts. distributed to produce this deflection. At p. 224 the author says "If the effect of eccentric pressure be tried on two pieces of india rubber, placed together, there will be difficulty in mentally digesting the usually accepted theory," but he probably meant the reverse, and the word "no" should be inserted before "difficulty." The chapter on hammerbeam roofs is interesting, but the author would not be quite so sure of the simplicity of the stresses in them if he had been called on to strengthen as many as the writer has; point X in Fig. 149 is not so free from stress as he imagines. The author is not correct in saying that "the keystone of an arch is a most essential point," all that is really necessary is that the arch should be continuous through the crown, and a keystone, as such, is of no consequence whatever. In the design for a thin concrete dome 100 ft. diameter, carrying a lantern 20 ft. in diameter and weighing 120 tons, the shear stress at base of lantern appears to have been overlooked. Apart from these points of criticism there is much that can be studied with advantage, and the book may be generally commended.

Stresses and Strains: their Calculation and that of their Resistances, by Formulæ and Graphic Methods. By Frederic Richard Farrow, F.R.I.B.A. Second edition. Revised. Whittaker & Co., 1912. Cloth, 8vo., pp. 138 and folded plates. Price 5*s.* net.

This little book is written chiefly for candidates preparing for the examination of the Royal Institute of British Architects so far as regards the subject of the title. A rather unusual feature is a list of formulæ at the commencement, which may offer somewhat of a temptation to students to commit them to memory, instead of properly mastering the principles, when the formulæ would suggest themselves. The first chapter, however, is devoted to showing how a formula is constructed and the explanation is given in a very simple manner that may be easily understood. We feel bound to dissent from some of the statements in the book unless they are made with reservation and some of the definitions are very old-fashioned, as for instance the statement that " the modulus of elasticity is the load which would stretch a uniform bar to twice its original length or shorten it to zero, if it were assumed that the ratio of the amount of stretch or compression bore the same relation to the load as it does within the limit of elasticity." The shortening to zero is surely more difficult of comprehension than an explanation would be of the proper definition of the modulus of elasticity as *the ratio of stress to strain within the limits of elasticity.* The definition given of a moment is " The moment of a force is the measure of its activity on any particular point, or, in other words, the moment of a force about a point is the name given to the power which that force possesses to turn anything around that point." It would be much simpler to say that " a moment is a force multiplied by a leverage, and the moment of a force about any point is the amount of the force multiplied by its perpendicular distance from the point." This is in effect stated further on, but why not start with it ? In the detailed calculations for riveted girders some peculiar statements are made, for example, " The greatest strain on each rivet in tons should be five times the crippling area of one rivet in square inches." This hardly helps a young architect to determine the diameter of his rivets. The stress diagrams for roofs are very elementary and although they may be sufficient for the examination they are not enough for any practising architect who wishes to prepare reliable designs. The formulæ for arches would have been better omitted as no designer ever uses them and the graphic methods are much better adapted to the purpose. The general principles of the stability of arches and retaining walls are explained but the suggested modes of failure of the latter are peculiar ; they consist of (1) overturning on the outer edge, (2) bulging and (3) sliding. There is no mention of crushing from over-pressure on the wall or foundations, and " bulging " is not explained although it is not an accepted possibility. The " line of rupture " of the earth at the back of the wall is called the " slope of maximum pressure " a novelty of expression by which nothing is gained. The offsets shown in Fig. 79 make it appear that the brickwork is laid with horizontal beds ; whereas, they should always be at right angles to the battering face. At page 111 the author quotes a formula given by Hurst for the thrust produced by wind pressure against walls, but he gives it in the same incorrect form as it appears in Hurst's Handbook, it should be $T = \sqrt{\frac{PH^2}{\frac{1}{3}(f + HW)}}$ the brackets being omitted in the original. Apart from these points the book contains a good deal of useful matter for the student, but if it fairly represents the scope of the examinations the candidates have nothing very serious to contend with.

Modern Cottage Architecture. By Maurice B. Adams. London: B. T. Batsford, 94, High Holborn, W.C. Price 10*s.*

Ideal Designs for Houses. Edited by Seth-Smith & Monro, Architects. London: W. J. Baker, 59, Carey Street, Lincoln's Inn, W.C. Price 1*s.*

Sixty Designs for Family Homes. By Fifty Architects. London: W. J. Baker, 59, Carey Street, Lincoln's Inn, W.C. Price 1*s.*

The simultaneous publication of three books on the Planning and Designing of Houses is evidence of the great amount of attention which is just now being given to domestic architecture, and also, it may be said without exaggeration, of extraordinary present-day skill both in planning and designing comfortable homes. In every house illustrated in all three books there are present the essentials of convenience, artistic treatment and low cost, this last being the dominating consideration in almost every case and attained without sacrifice of beauty—in fact, in many instances being actually productive of it. In the case of Mr. Maurice B. Adams' *Modern Cottage Architecture*, this is a second edition of a well-known and much appreciated work, considerably enlarged by the addition of recent examples, and with supplemental plans, to a readable scale, as accompaniments to the descriptive letterpress. *Family Homes* is a much smaller work —a second annual issue, consisting like the first of sixty designs by some fifty architects, and published at the popular price of one shilling. *Ideal Designs for Houses* is similar in this respect, but all the examples illustrated are to be erected on one estate and by one builder, from the designs of various architects.

Rambles in the Pyrenees. By F. Hamilton Jackson, R.B.A. London: John Murray, Albemarle St., W.

Mr. Hamilton Jackson has written valuable books before now, but none are more captivating in style, more beautifully illustrated or more informative than that which he has recently published recording his rambles along the Northern slopes of the Pyrenees. He has, as a general rule, left the well-known places severely alone, and has written principally for the dilettante and the antiquarian who is content to be superficial; yet his information has been gathered with discretion and tempered with knowledge, and his criticisms are just, so that the resulting work is of solid value, and all the more so because it deals with places which are rarely visited and even more rarely illustrated or commented upon. How many architects, for example, are there who have ever heard of the church of St. Lever? Yet its plan is exceptional and more than ordinarily worthy of study, while its nave exhibits one of the finest examples of barrel vaulting in existence, with a semicircular lunette in the square east end, above the crown of the arch opening to the apse beyond. So, too, with the Lower Cathedral at St. Lizier, whose plan with its deflected axis is only comparable with those which Mr. Goodyear has so patiently investigated in Italy; but the exteriors of this and other examples are peculiar to themselves, of a character well shown in the numerous pen sketches. Romanesque capitals, crowded with figures of animals and human beings, are also illustrated again and again, many of them containing suggestions for enrichment which are well worth noting; but the most beautiful of all the illustrations is a photograph of a wall-fountain at Foix, whose feeling can best be described as Japanese, the water issuing from the beak of a great swan, having outstretched wings, enclosed in a banded wreath.

Mainly about Members.

We regret to announce the death, on May 21st, of MR. RICHARD WILLOCK, a member of the Council and of the Board of Examiners. He was articled to Mr. John Thompson, of Kendal, and commenced practice as an architect in the City in 1894. In 1909 he was elected a Fellow of the Royal Institute of British Architects and a member of The Society, being in the same year elected a member of the Council of the latter body. His term of office would have expired in October next. As will be gathered, he took an active part in the work of The Society, and he was equally active in promoting its social side. Outside his professional interests, he was known in Masonic circles, and was a musician of considerable ability.

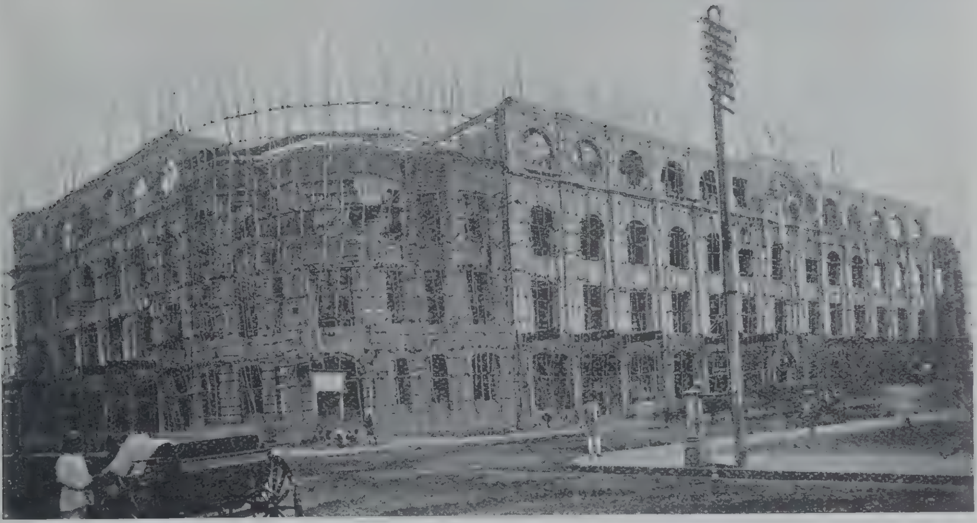
We also regret to announce the death, on June 7th, of MR. HENRY JOSEPH WILLIAMS, of Alliance Chambers, Corn Street, Bristol, in his seventy-first year. Mr. Williams, says *The Builder*, had an extensive practice in Bristol, his native city, where he began his career as an architect more than forty years ago. He was one of the fourteen architects who were invited twelve years since to submit designs for the new Bristol Infirmary, for 1,000 patients ; he was employed in the repair and restoration of several churches, comprising, as we gather, the underpinning of the north side of Ripon Cathedral. Of his other work in the locality we may mention the Law Union and Crown Insurance Offices in Clare Street (1897) ; Avon Bank Electricity Works in Feeder Road (1900-1) ; Petty Sessional and Police Courts, Nelson and Bridewell Streets, rebuilding and extension (1901-2), in competition ; the new Stock Exchange, with offices and library, in Nicholas Street ; and the Waterworks Company's Offices in Telephone Avenue (1902-3) ; Council School, Parson Street, Bedminster, for 1,050 scholars ; the Bristol Wagon and Carriage Works Company's workshops and garage in Victoria Street ; London and South-Western Bank, and the branches of Lloyd's Banking Company ; offices for the *Western Daily Express* in Baldwin Street ; and business premises in Wine Street and the Pithay for Messrs. Harris & Sons, in Broad Street for Mr. E. Everard, in Avondale Road for Messrs. Chappell, Allen, & Co., in Temple Gate for Messrs. Todd & Co., in Rupert Street for Mr. C. Wills, in Victoria Street for Messrs. Bolt, with several other factories, warehouses, etc. The late Mr. Williams was a founder Member of The Society of Architects, with which he had been associated since 1884. He was one of those who took part in the Society's visit to Bath in 1907.

The Lamb Hotel, at Eastbourne, is situated in the Old Town, and at one time a monastery stood on this site. In the course of alterations the plastering to the west front, facing St. Mary's Church, has been removed, and under it was discovered the original front of the house. It would appear that in the Georgian period the whole front of the house was covered in by quartering and plaster, but the remains of windows and old front were left. MR. ANDREW FORD, Architect, of Gildredge Road, Eastbourne, has the alterations in hand.

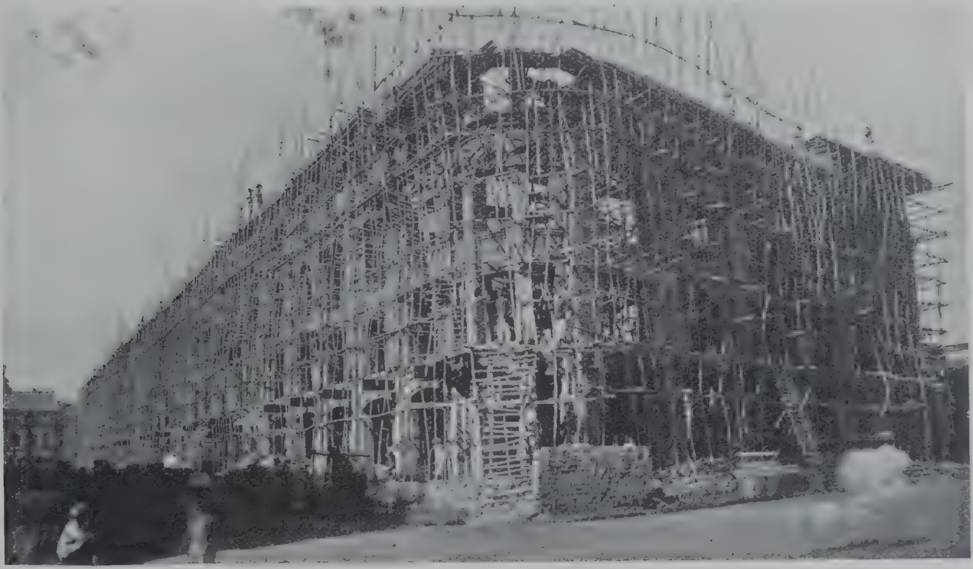
At a recent meeting of the Gloucestershire Architectural Association, MR. T. OVERBURY (Fellow) read a paper entitled "The Recent Reparative Work to the Tower and Spire of the Parish Church, Cheltenham: The Use of Ferro-Concrete in connexion therewith." After a brief historical description of the Church, Mr. Overbury gave a detailed description of the work that had been done under the direction of his firm (MESSRS. HEALING & OVERBURY) in repairing the tower and spire. The lecture was illustrated with numerous lantern slides, detail drawings, and models.

Work has been commenced on the erection of the Administrative Block of the King's Hospital, at Calcutta, which will contain quarters for the Chief Medical Officer and also the Public Dispensary and Board Room, and 24 beds. Three large blocks of buildings will ultimately be built and during the construction of the large wards the Administrative Block will be used entirely as a Hospital. The architect for the undertaking is MR. STEPHEN WILKINSON, of Dalhousie Square, Calcutta, who is also the architect for the new premises of the Hindustan Insurance Company, one of the largest buildings of its kind in the country and other buildings of considerable importance. Mr. Wilkinson was the Superintending Architect for the erection of the Royal Amphitheatre used in connection with the King-Emperor's recent visit to Calcutta.

LIEUT. T. STEWART INGLIS (Member of Council) and other officers of the First London Brigade Royal Field Artillery were presented to His Majesty recently at the Levee held at St. James' Palace. His Majesty honoured the same Brigade last year by inspecting it when undergoing training at Aldershot. Lieut. Inglis, who has recently removed to Streatham, and purchased No. 9, Oakdale Road, and grounds, with a view to residing there shortly, comes of an old fighting stock. His father, the late Major T. S. Inglis, was an old Garrison gunner, and his brother served as a volunteer with the Canadian contingent in the late South African War; his name is mentioned for distinguished service in Sir A. Conan Doyle's *History of the Boer War*, and although he was in the thick of the fight throughout the campaign, he unfortunately went under at the end with enteric fever.



This building, of which two views of the work in progress are given, will, when completed, be one of the largest of its kind in the country. The somewhat primitive method adopted for scaffolding and ladders will be noted.



New Premises for the Hindustan Insurance Co., Calcutta.
Mr. Stephen Wilkinson (Member), Architect.

The Society of Architects Lodge of Freemasons.

A regular meeting of the Lodge was held on May 8th, at the Holborn Restaurant, when in addition to the transaction of other business, Mr. E. J. Sadgrove, F.R.I.B.A., was elected Worshipful Master, and Mr. F. J. Eedle was re-elected as Treasurer.

The Installation Meeting will be held on Wednesday, November 13th.

Meetings and other Fixtures, 1912.

Sept. 5th. Council Meeting. House List, etc.
,, 9th. Examination Entries Close.
,, 29th. Last day for submitting Students' Quarterly Competition Work.
,, 30th. ,, ,, ,, ,, Scholarship Measured Drawings.
,, ,, ,, ,, ,, ,, Nominations for Officers and Council.
,, ,, ,, ,, ,, ,, Travelling Studentship Report.
Oct. 1st, 2nd, 3rd. Examinations for Membership.
,, 3rd. Council Meeting.
,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

Annual General Meeting.

The Twenty-ninth Annual General Meeting of The Society of Architects will be held at 28, Bedford Square, London, W.C., on Thursday, October 17th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Council's Annual Report.
6. Election of Officers and Council, 1912–13.

Light refreshments will be served after the meeting.

Smoking permitted.

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

The Copyright Act and the Ownership of Architects' Drawings.

Commenting on the architects' interest under the new Copyright Act, *The Architects and Builders' Journal* says, "the one real advantage that the architect gets by the Act is that, by implication (as we read it) he retains the ownership of his own drawings, and therefore deprives the building owner of the power to use them over again for another building. That is a distinct gain, but we fear it is the only one that the architect will obtain by the Act, unless he either persuades the client to leave him the copyright, or unless he is building at his own expense and for his own pleasure. If he builds a house for himself he can restrain any one else from copying it. But as soon as he builds as a commission from a client the copyright in the design passes over to the client, unless the architect has been able to persuade him into an agreement to the contrary.

"Architects' drawings, as drawings, have of course the same protection from unlicensed copying as any other drawings. But as far as their buildings are concerned they have no legal protection against their designs being reproduced except on the condition (1) of persuading the client to an agreement to leave them the copyright, and (2) of proving that the buildings are works of art. Beyond that the chief benefit to architects in the Act lies in the fact that it appears to give them, by implication, the property in their own studies and working drawings for a building, and that at least is an important point gained."

Seven Years' Work at Winchester Cathedral.

Members of the Society in general, but in particular those who visited Winchester Cathedral in the autumn of 1906, will be interested in Mr. T. G. Jackson's report to the Dean and Chapter on the work done during the past seven years.

Mr. T. G. Jackson, in the course of his report published in *The Times*, says: the cause of the mischief is the nature of the foundation. The Cathedral stands on a bed of compressible loamy soil overlying peat which in some places is 7 ft. thick. This rests generally, at a depth of from 20 ft. to 24 ft., on a compact hard gravel, heavily charged with water, but in some cases there is a thin bed of soft, chalky silt between the two. The subsoil at the depth of 10 ft., and in some seasons less, is charged with water, and it was on reaching this that the old foundations stopped, the Norman and medieval builders having no means of coping with the difficulty.

The south wall of Bishop de Lucy's retro-choir, which had sunk from 7 in. in the middle to nearly 2 ft. at the east end, had split off from the Norman work to the west of it, leaving a crack 5 in. wide.

This wall rested on a double layer of beech trees laid crossways. The north side was not much better, and in both cases the vaults had overpowered the walls and thrust them out of the perpendicular, tearing the buttress piers, on which the thrust was concentrated, away from the curtain walls between them. This movement of the walls had dislocated the stone vaults, the ribs having sunk so badly as to have lost their curve of stability, and being only prevented from falling by being bolted to timbering above.

The walls of the choir and choir aisles were seriously cracked and the vaulting of the aisles so much disturbed that parts were unsafe.

Cracks had appeared in the walls of the north transept, and both the north end and the side walls were dislocated in all directions. But the south transept was far worse, the end wall being broken away by great fissures from the side walls, and having an inclination of over 4 ft. in a height of 120, which nearly brought the centre of gravity outside the base. The side walls also were badly ruptured, and that on the east inclined seriously outwards.

It was obviously necessary to replace the soft foundation by something solid, but the first hard bottom to be found was the gravel bed at a depth of 20 ft. and more, 10 ft. below water-level. The underpinning on to the gravel of one corner of the church which he first undertook was not altogether satisfactory, and proved very expensive. He, thereupon consulted Mr. Francis Fox,* the civil engineer, and by his advice a diver was employed to lay the lower courses of the underpinning under water on which the mason and bricklayers carried the rest up to the old foundations.

In this way the retro-choir and lady chapel were underpinned successfully.

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* Now Sir Francis Fox.

The question then was how far to continue the underpinning of the rest of the Cathedral. It seemed to Mr. Jackson that the great piers of the interior must in the course of more than 800 years have compressed the peat to the utmost, provided lateral expansion were prevented, and that consequently if the outer walls were underpinned down to the gravel and the interior soil confined this result might be obtained.

On this principle the repairs have been conducted, and the underpinning has been confined to the outer walls.

The most hazardous part of the operations has naturally been the south transept. To underpin so vast a wall 120 ft. high and nearly 4 ft. 6 in. out of the upright required some courage. It has, however, been done; the lower part has been strengthened by bringing it forward with large buttresses, and the whole is strongly chained back to the side walls with iron ties. The shoring was slacked last August, and as no movement has been detected it is now being removed.

Of other work the groining of De Lucy's Presbytery has been partly reconstructed and partly repaired; the flying buttresses of the choir have been reset and those of the nave aisles repaired; the groining of the crypts has been grouted and make good, and some of the columns have been taken out and refixed on new foundations. The cracks of the main walls, of which there were more than 100 in all parts of the building, have been bonded with hard stone, and grouted full of liquid cement with the Greathead grouting machine, which has been of the most valuable service. The tower has been strapped together with iron. The west end has been repaired and the pinnacles restored, but the foundations of this part have not been touched.

The south nave wall, which was actually in movement towards a fall, has been secured by buttresses, which are arched over an inner walk along the south side of the church; and these are the only evidences above ground of all that has been done to secure the building.

The Daily Graphic in the course of an article on the subject says: Some idea of the diving operations must best be gleaned from Mr. Fox's own words in an address on the subject read before the Royal Institute of British Architects:—

"The diving boots weighed 20 lb. apiece, each having a thick lead sole; the dress weighed 30 lb.; the leads on the chest and back were 40 lb. each, and the helmet 20 lb.; making, with the remainder of the equipment, a total load to be carried of nearly 200 lb. But notwithstanding all this, the flotation power of the water was so great that, in the case of a lightly-built person going down the ladder, instead of treading on the rungs, it was necessary to place the feet beneath them and pull oneself down step by step.

"The pits were absolutely dark, owing to the water being thick with peat, and no artificial light was possible; consequently the whole of the work was done, not by sight, but by feeling. So soon as the peat was excavated the bottom was covered over with bags filled with concrete, carefully and tightly trodden in all round. These were then slit open and another layer of bags placed on the top. These, again, were ripped up, and so on for four courses in all. . . . .

"The chinks and crannies between the bags were filled by hand with cement-concrete lowered down to the diver in buckets. Thus this mass became practically a solid rock and sealed down the flood of water from the gravel, enabling the excavation to be pumped dry. Concreting was then continued, either in bulk or in block, until a considerable height was attained, and upon this blocks of concrete or brick in cement were carried up, and tightly pinned to the under side of the old masonry constituting the original foundations of the Cathedral."

Now the walls of the presbytery are practically standing upon a bed of rock instead of compressible peat. Mr. Fox is particular to mention that great credit is due to Mr. Walker, the diver, for the manner in which he has executed his most responsible duties. While the diver was working in the inky darkness of the underground pits year in and year out, the fissures and cracks in the walls were being repaired with an engine by which liquid cement can be pumped into the deepest rent in a riven wall.

Thus it may be said that the entire Cathedral has been rewelded together and placed upon a new foundation—a foundation which is probably for the first time in the Cathedral's history of a solid character. It is not too much to say that those who have been concerned in the work of saving the noble old building deserve the thanks of all lovers of architecture and the gratitude of the nation.

In a letter to "The Times," Mr. Jackson further acknowledges the services of Messrs. Thompson, of Peterborough, the contractors, to whose peculiar skill and extensive experience in ecclesiastical work he cordially expresses his indebtedness. He also bears witness to the zeal and attention bestowed on the work by his clerk of works, Mr. Edwin Long, who has been with him for nearly forty years; and by Mr. Ferrar, the contractors' foreman.

Architectural Photography.

The Window Difficulty.

Mr. H. W. Bennett, in the course of a paper read before the Royal Photographic Society, and published in *The Photographic Journal,* dealing with some of the minor difficulties in architectural photography, calls attention first to a difficulty frequently encountered by the slipping of the tripod on a smooth floor. In order to prevent this he employs a small piece of apparatus which is not obtainable commercially, but which can readily be made by anyone with the slightest mechanical skill. It consists of three pieces of wood about 30 inches long by 1½ broad and ¼ thick with a screw, preferably a tripod screw, joining them together at one end. When opened out they form a most effective support for the tripod. Three or four small holes are cut a few inches apart near the free end of each piece, and into one of these holes in each, a point of the tripod is inserted.

Another point is the form of the detachable lens panel. It is a great advantage in architectural work to have the lens panel pierced for the lens above the centre. This gives to the lens a certain amount of rise apart from the rising front. The smaller the diameter of the lens the greater the distance from the centre at which it may be placed. But it is principally in the small lenses that this is found to be useful, as a larger rise is obtained for the lens without so much twist or strain on the bellows. With a large range of rising front—2¼ inches—and with the piercing for the lens 1 inch above the centre of the panel he obtains a total rise of 3¼ inches. If the lens panels are already pierced in the centre, it is a simple matter to have a new panel made. The arrangement also has the advantage that when the panel is turned in the reverse position the lens is some distance below the centre, and this is useful in certain work.

A further point is a sky-shade. This is as useful in interior work as for shielding the lens from the glare of the sky in the case of work out of doors. It consisted, in the case of the camera shown, of three pieces of wood hinged together, the middle portion resting on the top of the camera, forming the top of the shade, and the two other pieces hanging down and forming the sides. The size is so arranged that when placed in the normal position it can be used with the widest angle lens without cutting off any portion of the subject. The projection is just sufficient to allow the full illumination of the plate when the plate is in the horizontal position. It will allow more illumination than is required when the plate is in the vertical position, and sometimes fails in its object through allowing light to reach the lens from a larger angle than is included in the picture, and so prevent the shielding from being sufficiently effective. When taking a vertical subject, therefore, it is well to move the shade to one side or the other, so that the lens can be shielded on the side that requires shading. It can be adjusted until the troublesome light in front of the lens is sufficiently shielded without obscuring the view.

Windows are the greatest trouble that the photographer can encounter. The mechanical difficulty of the window may be dealt with comparatively easily. A plate that is effectively backed will resist halation under ordinary circumstances. But there is still the overwhelming difficulty that one part of the subject is abnormally bright relative to the remainder.

Before dealing with this, however, there is one point in connection with windows, a difficulty of a different type that ought to be mentioned. Sometimes an interior is comparatively harshly lighted, for instance, a comparatively small room filled with machinery was lighted by one small window. One part of the room was brilliantly lighted, the other parts were relatively very dark, so that the lighting from the photographic point of view was exceedingly unsatisfactory. When the sun was shining, naturally, matters were worse. A strong patch of light then appeared on the floor, and this made the contrast between the bright and the dark parts of the room still greater. The difficulty was overcome by covering the window with white tissue paper, and waiting until the sun was shining directly on it. The tissue paper acted as diffuser of the light, and a soft even lighting was obtained which allowed the details to be shown clearly and without harshness.

In domestic interiors, a similar result has been secured by pulling down white blinds while exposing, thus obtaining a very much more even illumination in the room. This method of diffusing the light by utilizing sunlight on a white blind or tissue paper is a factor to be considered in photographic interiors. In interiors the light strikes downwards, and the lower part of the room is better illuminated than the upper part—namely, the ceiling—which almost invariably is too dark. The scattering of the light by such means of diffusion is like a grey day, and gives a much more effective result photographically than the harsh sunshine.

The greatest difficulty arises when there are windows in front of the camera, owing to the strong difference between the light of the windows and the dark portions of the room. In interior work, whether windows are included or not, sufficient exposure has to be given to secure full detail in the dark shadows with a normal development for the subject. With such a subject a window, especially if the sky is seen through it, is enormously over-exposed, and everything near the window will be much too light relatively to the other portions. The subject will range itself into two groups of tones, one relatively exceedingly light near the window and the other, away from the window, relatively very dark.

The difficulty of windows is two-fold. One is the spread of the light in the subject itself, the other the diffusion of the light from the surface of the lens. The latter causes practically the same effect as if the camera in photographing a landscape were pointed towards the sun when the sun was actually shining. A scattering of light results, which gives the impression that the photograph was taken in a fog. Not only does this difficulty arise from photographing an interior when the camera is pointed towards the window, but, in addition, because it is the shadow side of all the objects in the room that is being photographed.

Sometimes, particularly in domestic interiors, small windows are found, very effectively arranged, and adding considerably to the beauty and attractiveness of the room, but unless due precautions are taken in dealing with them they will add to the photographer's troubles.

When there are several windows in a room and only one is included in the picture, the task is much easier than when all have to be included. Mr. Bennett's plan, whenever practicable, is to cover the windows for a large portion of the exposure.

The windows are covered for the greater part of the exposure, then the lens is capped for a few moments, the coverings taken down, and a short supplementary exposure is made.

When the windows that have to be included are the only windows in the room, the difficulty of the task is considerably increased. In that case it is practically necessary to arrange not to include the whole of the window ; if the whole window is covered there is practically no light remaining with which to take the photograph. But when there is only one window in a room and that window or a portion of it has to be included, then, of course, the portions of the window that it is proposed to include will first be covered, leaving the other parts uncovered. It will be necessary to exercise great care in adjusting the shields in the front of the camera in such a manner that only the light from the portion of the window that is going to be covered is allowed to reach the lens. The lens must be carefully shielded from those portions of the window that are left uncovered during the whole of the exposure.

At times one of the difficulties in interior photography is to have sufficient range for the camera and to leave space enough behind it properly to carry out the focusing. When practicable, the camera may be placed in a doorway, partially outside the room, and an additional four or five feet secured, and it is then possible for the doorway to form a very efficient lens shield.

It is always desirable to arrange, if possible, that the light shall appear to come from the windows included, if it would come from those windows in the natural course. The windows must be given the appearance of naturalness. That is to say, they must appear to light the room as well as to serve in the lighting of the photograph. Work under conditions which necessitate the covering of the windows during a great part of the exposure is exceedingly slow, and exposure is prolonged, for if the quantity of light entering the room be reduced perhaps by 75 per cent., it is necessary to expose liberally if a harsh lighting effect is not to follow.

The supplementary exposure which is made with the coverings down cannot be considered in proportion to the total exposure. Rather, it is an independent factor. Some guidance as to the length of this exposure may be given. When a comparatively open garden or similar subject is seen through the window, the exposure, when the coverings are taken down from the window, may be taken as one second at *f*/16, with plates 200 H. and D., under the best possible lighting. The exposure may vary from that up to five seconds, the longer exposure being given if the landscape seen through the window is enclosed or relatively dark.

A frequent difficulty is getting sufficiently far away from the material that has to be photographed. An open door, as in the case of a room, may give four or five feet extra, but, sometimes, the camera has to be placed in a corner, with insufficient space behind it to allow for focusing or for arranging the picture satisfactorily. And at times, in a small interior, this necessity for space for working prevents sufficient of the subject from being reproduced in the photograph.

A method for overcoming this difficulty is to place the camera first in such a position as to give sufficient space for focusing. When all is arranged it is moved back so that a larger view is obtained in the place of a smaller one. Here, some means other than looking on the focusing screen must be taken to ascertain how much subject is included on the plate.

If there should be a window behind the camera all that is necessary to do is to open the lens to its full aperture, walk away diagonally from the camera to the farther side of the room, and then look through the lens to the back of the camera. In this way a point will be found at which the light from the focusing screen ends, and instead of a little circle of light being visible, there will only be, say, darkness. The parts of the room at which this change from light to darkness is seen form the limits of the view included on the plate.

If there is no window behind the camera a different plan has to be adopted. The glasses may be removed from the lens and the mount put back into the flange. Then two pieces of stamp edging placed on the frame of the focusing screen may be seen through the lens mount in the back of the camera, and these pieces of stamp edging may be seen from the parts of the room that are just beyond the limits of the view, as just described. By this method it may readily be determined how much view is included on the plate. The camera can be moved right back into a corner, much closer to the wall than if it were necessary to go behind it in order to arrange the subject.

Another method is focusing by means of the swing-back. Sometimes a subject has the fore-ground very close to the camera, and the other parts are at a very great distance. In working with a whole plate camera and using a lens of 11 inch focus the difference between the camera extension for even 10 feet and 200 feet respectively is very great, and no amount of stoping down will under ordinary conditions give sufficient depth of definition.

In the case of a subject in which the foreground is really on the ground and the distance comes on the upper part of the plate, the camera may be tilted downwards, the swing-back set in a vertical position offering a ready means of adjustment for the depth of focus required.

The height of the camera should generally be the normal height of vision, but the length of focus of the lens must have a considerable influence in determining the height of the camera. Under normal conditions, if on one camera there were three lenses of 6, 10, and 20 inches focus, and the camera were placed at the same height from the ground, the nearest foreground would produce a very different effect, according to the lens used. With a very long focus lens the ground appears too much foreshortened; with a wide-angle lens it appears to be running uphill. With a wide-angle lens, he prefers, if possible, to bring the camera down to 3 feet or less from the ground in order to avoid that effect. In domestic interiors the camera should be just sufficiently above the level of a table to show the top of it, so as not to give the impression of looking along it as though it were an edge.

Exposure was a subject presenting little difficulty if the factors were considered systematically. He calculated on the basis of *f*/16, using plates 200 H. and D., and in the best possible light of the year. Any alteration in these factors meant that the exposure must be correspondingly modified. Under these conditions the exposure for domestic interiors—rooms in modern houses—would vary, in the majority of cases, from one minute up to four minutes. This was not a very long range. A room with light walls and furniture would be fully exposed in about one minute. A room with dark walls and furniture would take two, three, or four minutes, or in extreme cases five minutes, but in his experience no room in a modern house would take longer than five minutes. When the rooms had no furniture a very great difference was noticed. In that case the exposure might be as short as twenty-five seconds.

In churches or cathedrals that were well lighted the exposure might be approximately one minute for a general view of the nave and if badly lighted it might be three, or in extreme cases four minutes. The aisles of most cathedrals had distinctly inferior lighting. If they were lighted with plain glass windows, those windows being fairly unobstructed, the exposure again might be one minute. If the windows were obstructed by trees or other buildings the exposure might be anything up to two and a half or three minutes. Stained glass windows necessitated from two to four times the exposure that would be necessary for white glass, simply by reason of the colour of the light transmitted by the glass. The choir of a cathedral generally required a much longer exposure than the nave, owing to the small quantity of light reaching the dark oak choir stalls. Exposures here might be from four to twenty minutes.

In Lichfield four or five minutes would suffice; in Ely it had to be twenty minutes. After all, this was not a very long range. Crypts taxed the ingenuity in the matter of exposure. While some might be fully exposed in ten minutes, there were others where two hours would not be too much. These suggestions for exposure were calculated for the best possible daylight, so that for any time of the day or the year when the light fell short of its best, modifications in the exposure would have to be made. The exposures in that case must be multiplied by the degree of falling off in the light from its best quality. If the light had only half its normal value the exposure should be doubled. In this manner the amateur might obtain a sufficiently accurate negative for every plate he exposed.—*The Architect and Contract Reporter.*

Architectural Tour in France.

The Rev. Dr. West, A.R.I.B.A., pupil of E. M. Barry, R.A., and of Viollet-le-Duc, and author of *Gothic Architecture in England and France*, proposes to conduct an Architectural Tour in France during the summer. The number of party not to exceed fifteen (ladies or gentlemen).

Cost, not including Return Ticket to Paris, will not exceed about 15 Guineas for a fortnight, or 25 Guineas for a month, apart from special expenses.

Rouen or Paris will be the starting point, and one or other of the following districts will be selected:—Caen, Soissonnais and Beauvaisais, The Ile de France, Burgundy, the route specially suggested being Chartres, Le Mans, Angers, Poitiers, Angoulême, Perigueux, Clermont, Bourges, Nevers, Vezelay, Dijon, Sens.

Every facility will be given for Sketching and Photographing, and the necessary permissions obtained.

Those desiring further information should communicate with the Rev. G. H. West, D.D., Selsley Vicarage, near Stroud, Glos.

The Construction of Buildings for Music.

Some Main Points for Consideration.

Mr. H. H. Statham, F.R.I.B.A., in a paper read before the Manchester Society of Architects, drew a most interesting and instructive parallel between architecture and music, and followed it up by some new practical suggestions from the architectural standpoint as regards the construction and design of buildings for music.

The following is a summary of this part of Mr. Statham's paper, taken from the report in *The Architects and Builders' Journal* :—New concert halls are almost always, on the part of the promoters, commercial rather than artistic speculations, and one of the first things generally thought of is the capability of letting the hall for other purposes than concerts. That generally means a flat floor, and after that any idea of making the best possible building for hearing music is at an end. A solid wood-block floor, on concrete, is supposed to be the orthodox floor foı a public room now, but it is bad for music. What is needed is a boarded floor with a space underneath, to act as a resonator. It is all very well to talk about danger from fire ; but one cannot have everything, and if a building is to be the best for music that risk has to be run.

In constructing the best possible building for music, three main points have to be considered : (1) efficient production of sound ; (2) avoidance of echo ; (3) placing the audience in the best and most convenient way for hearing. In regard to the point of production of sound, the orchestra must be built of wood and lined either with wood or with fibrous plaster ; materials which sympathize with sound without absorbing it. Textiles absorb sound ; there should be no curtains or upholstery about the orchestra. On the other hand, there should be no hard polished surfaces ; they do not assist sound, but they may have the result of imparting a hard metallic clang to it. The walls of the orchestra should widen somewhat towards the auditorium, and the ceiling slope gently upward from back to front ; and the ceiling should not be higher than can be avoided, as the sound is not wanted up there, it should be driven forward towards the auditorium.

The Avoidance of Echo.

The avoidance of echo is a question partly of the materials used and partly of the shape of the room. In regard to material, all substances which reflect light sharply will reflect sound sharply ; polished marble and hard polished cements should be avoided. The best material for lining walls is fibrous plaster, or a wooden dado with fibrous plaster over it. There should never be plate-glass windows in a concert room ; they form sharp reflectors of sound ; windows should be in small panes with wooden bars, not metal.

As to the shape of the room as affecting sound and echo, it must be understood that there is no science of acoustics worth speaking of. Acoustics can give us positive information as to the manner in which sound is produced, its rate of travel, and so on; but there is no scientific law which will enable one to predict exactly what sound will do in a room of a certain size, shape, and material. It seems to depend on a number of circumstances which are beyond definite analysis.

In Roger Smith's little book on "Acoustics" it is stated that a right-angled meeting of walls, if sound is produced near the angle, leads to a noisy repercussion from side to side, which gets repeated at the opposite angle. It would, therefore, seem better to have the meeting of walls, and of wall and ceiling, broken by a plane at an angle of 45°; or, what would probably be still better, by a convex angle screen. A concave surface focusses echo, if there is any; a convex one spreads and disperses it. Then, smooth flat surfaces on walls and ceiling should be avoided. A flat end wall, in a large concert hall, is almost certain to send back disturbing echoes; its surface must be broken up in some way; for this reason a gallery across the end, besides adding to the seat room, is sometimes an acoustic advantage. Generally speaking, however, concave surfaces, either in wall or ceiling, are better avoided; they tend to focus an echo on the centre of the curve, and this should be noticed, because there is a tendency at present towards circular plans for concert rooms. Echo may be prevented in them by judicious use of materials and wall treatment; but there are various instances of circular rooms in which a whisper at one side is heard plainly at the other side. As reference has been made to the effect of textiles in deadening sound, it may be said that textiles, curtains for instance, at the opposite end from the orchestra, may have rather a good effect in preventing any return echo, though they should not be used prominently in any other part of the room.

THE PLANNING OF A CONCERT HALL.

On the question of the best way of placing the audience, the first thing to be remembered is that the audience should "face the music." For this purpose the circular form is very bad.

The best plan for a concert hall is a parallelogram about twice as long as it is wide, exclusive of the orchestra—or perhaps the proportion of width might be a little greater—with the floor rising from front to back, not quite in a straight section, but in a slight curve, becoming rather quicker in its rise towards the back, and set out so that the back row of listeners should be about on a level with the half-height of the orchestra. The seats should be all across the width of the room, facing the orchestra. The reason for having the seats raised on a slope or curve is that, however one may think theoretically that it ought not to be so, it does seem to be the fact that sound tends to rise more than fall from the point of production, and anyone seated at the back of a large flat-floor concert room has the impression that some of the sound is over his head. The ceiling of the room should not be a very high one, because the area where no one is listening means wasted sound ; we want to confine the sound in the direction of the listeners. And that implies another objection to the circular form for large concert halls. Such a hall leaves a wide central air space where sound wanders about uncontrolled, and the sharpness of detail is lost. On this account, Mr. Statham raises a protest against the tendency to increased size in concert halls. He does not believe it is possible for more than 2,500 people to hear music satisfactorily in one building, and he would prefer to limit it to 2,000. The Queen's Hall seats 2,650, and is, in his opinion, too large for the most perfect enjoyment of music.

There is, however, one class of concert room in which the circular form might be well employed ; in rooms on a small scale for chamber music. When one comes down to small dimensions one is not much troubled about echo ; there is not space for it to develop. A small circular concert room, with a platform in the middle for the players, might be very good for chamber music concerts, and a charming room might be made of it architecturally. It would not, of course, do for vocal music, where the singer must face the whole of the audience ; but it would be perfectly efficient for instrumental music, and would enable a fair number of persons to be seated without any of them being far from the performers.

THE CONSTRUCTION OF THE ORCHESTRA.

Mr. Statham makes a new suggestion for the construction of the orchestra for the combination of band, chorus, and organ. At present there is no structural division between band and chorus ; they are crowded close up together so that the back row of the instrumentalists is close up to the front row of the singers. There is a double disadvantage in this. The band is immediately backed by the masses of the chorus, whose clothing forms a quantity of textile material not favourable to the reinforcement and reflection of sound ; and individual members of the chorus may find themselves close up against instruments playing something different from what they are singing, which cannot conduce to steadiness in their parts. He proposes to place band and chorus on two different stages, the band being backed by a wooden sounding-board carried up behind the back row of players and slightly curved forwards, so as to act as a reflector and strengthener of the sound. The chorus, on the seats above, would hear the band quite sufficiently, but *en masse*, and not with some of the instruments almost mixed with their own ranks.

THE ORGAN IN RELATION TO THE ORCHESTRA.

Then there comes the question of the organ. Generally speaking, insufficient area and height are left for the organ, and either it is bracketed out over the heads of the chorus, which puts it right against the ceiling (a bad position for its effect) or it is projected out into the chorus seats, which puts the singers on each side of it into a recess where they cannot hear each other; and though the singers are supposed to be all governed by the conductor, it is more conducive to keeping time and tune that they should be able to hear each other. The organ in his scheme forms the background to the whole orchestra, but it is not necessary that its real height should start from the top level of the chorus seats. The pipes placed in front must do so—the wind is conveyed to them through conduits; but the wind-chest on which the bulk of the pipes stand could be placed a good deal lower, and that for the large pedal pipes (on the right hand of the section) lower still; they will be just as well heard, and there is then no need for making special provisions for their height above the ceiling of the orchestra. There should be a solid wall behind the organ, and no windows in it, to keep it as much as possible from changes of outside temperature. And as one can now have electric action between the keyboard and the organ, the keyboard should be placed in front of the band and chorus, so that the organist can know what effect he is producing, which he cannot know if he is seated close up to or almost in the organ.

THE POSITION OF THE ORGAN IN CHURCHES.

The increasing size of cathedral organs is leading to difficulties as to the placing of the organ. The old position of the cathedral organ on the choir screen was admirable both for musical and architectural effect. It has been objected to as interfering with the vista, but the old cathedral organ on the screen, sometimes with a beautifully designed case, was a very fine object and an addition to the architectural effect. The reason for the increased size of the modern cathedral organ is that we have now learned from the example of Germany that the pedal organ ought to have a complete set of stops—ten or twelve, instead of having only two stops to make a booming effect, and couple the pedal to the manual for the rest of the stops; and it is the pedal pipes that make the size, as they are all twice as large as the corresponding pipes in the manual part of the organ. Hence the organ gets too large for its old position on the choir screen. To put it in the transept is perhaps the best, for the organ effect, but it gets rather too far from the singers that way; to put it in the triforium, as has been done in one of the cathedrals, is one of the worst ways; it is all boxed up there, and cannot be properly heard. The difficulty might be met by building up the organ from the floor, under one of the crossing arches, but turning it round, so to speak, so that its longer axis was on the longer axis of the building. It would be possible in that way to build a large organ and yet leave room at each side for an archway into the choir.

The position of the organ in the parish church is hampered by the custom of placing the choir on each side of a long chancel, and to get the organ near them it is put in an "organ chamber," where its sounds are quite smothered. The best place for the organ itself is in a west-end gallery, but in a large church that puts it too far from the singers; in a small church it has been done satisfactorily. For a large church, if you must have the singers in the long chancel, a counsel of perfection would be to have a small organ close to them to accompany them, and a large organ in the west gallery to accompany congregational singing, played by electric action from the keyboard in the chancel ; but it is of course a costly method. The whole difficulty arises from the notion that the choir must be seated in a long chancel, which is only a survival from the fact that the mediæval services used to be sung by the monks in the choir. The modern choristers are not clerics ; they are simply singers, either voluntary or hired, and the long chancel is the worst position for them either to lead the congregation or to be heard by the latter. Their position in the long chancel is a mere piece of tradition. Mr. Statham suggest, that we should go back to an older tradition, and that the Latin basilica church is the best form for modern worship. In the plan suggested, the choir are placed in the space which used to be called the *bema*, between the arcade and the east wall—a kind of shallow transept, and the organ in one or both of the spaces behind them. That is not an ideal place for it, but it is at all events better than the organ chamber ; and the choir would be much better heard there than in the long chancel. A still better way, for practical purposes, is to have the organ in a west gallery, and the choir half-way down the nave on each side. They could then be well heard by the congregation, and be not too far from the west end organ. This plan has been adopted in Lincoln's Inn Chapel, with satisfactory results.

The Possibilities of the Organ Case.

The organ case is capable of being made a splendid architectural feature, and its possibilities in that way are too much neglected at present, mainly from motives of economy. It may be treated on two principles ; either as a decorative open-work screen, concealing the pipes entirely ; or as an erection in which the larger pipes are mounted in front as part of the design. To do this the pipes in front have to be taken away from their proper position on the wind-chest, and the wind conveyed to them through special conduits ; this is a slight disadvantage and expense, but the appearance of the large pipes in front is so fine in a decorative sense, and so symbolic of the meaning of the erection, that it is worth while to have them as part of the design. When so used, the principal towers of pipes should be on the flanks of the design, not in the centre, as that is the way they are arranged on the wind-chest—the large ones at each end, the small ones in the middle, in order to equalize as much as possible the demand for wind. One of the finest organ cases in England is that designed by Cockerell for St. George's Hall, Liverpool, though its effect is very much spoiled now by the subsequent erection of the wooden orchestra seats in front, which hide the lower part of the case ; for it is another of the little jokes about St. George's Hall that, though it was supposed to be built for musical performances, no one ever thought of designing an orchestra ; Cockerell, who completed the interior after Elmes's death, merely introduced a small semicircular tribune on columns in front of the organ, which of course was of no practical use except for solo-singers. One of the fine points in Cockerell's design for the case was that he utilized some of the great square wooden pipes (generally overlooked in designs), placing them effectively in a semicircle round the back of the organ. Among celebrated organ-cases that at Saragossa cathedral is a very fine example of what may be called the romantic style; rich perforated work in a late Renaissance style, influenced no doubt by the recollection and example of Moorish decoration. In this case everything is flat, the effect being got by richness of perforated decoration. In the magnificent Renaissance organ case at Haarlem everything, on the contrary, is modelled; the effect is got by outline and modelled surfaces, in a more directly architectural spirit. In this and other German organ cases the fine effect should be noticed of the placing of the light choir organ (what the Germans call the *positiv*) as a separate small organ in front of the large one; this not only makes an effective incident in the design, but assists the sense of scale. There is a grand Renaissance organ-case in the cathedral at Troyes.

In conclusion, Mr. Statham suggests that the concert room ought not only to be a good music room, but a good example of architectural design. To those who may be commissioned to carry out a concert hall, he would say—try to get rid of the prevalent idea that buildings for any kind of entertainment must always be florid and bedizened with gilding in their interiors. That may be suitable for the "music hall" type of entertainment; but a building which is to be the home of classical music should surely aim at representing the most dignified and refined type of architecture and decoration.

The Nameless Architect.

There are two arts, and two only, which are high and noble beyond all others, without which a nation cannot save its soul alive. One of them is poetry and the other architecture, and both, so far as I can see, are not greatly esteemed in this England of ours. I will say nothing here of our new poetry: it is an age of little poets. But anyone who walks London streets with his eyes open can see that architecture in England is stirring with life. There are a dozen buildings in London from which the scaffolding has come lately away: any one of these I would show proudly to a Frenchman familiar with the academized work of new Paris.

Yet the common Englishman, for whom an artist is a man who paints a picture, does not so much as ask the name of the man who has built the house which should rejoice his eyes every day that he passes it. For him it is a house like another house: its achitect is a nameless man. There is a new theatre which I praise every time that I go by it. I will wager that, for a hundred Londoners who know the familiar name of the gentleman taking a lease of it for musical comedy, there will not be one who can name the architect of that theatre. The cook at the new hotel-restaurant has more fame than the man who set up its pillars and gave its windows noble proportion.—*Evening News.*

The Structures of the Future in Relation to Aviation.

Mr. Horace Cubitt, A.R.I.B.A., P.A.S.I., in a paper read before a meeting of the Institution of Municipal Engineers, held at the London Aerodrome, Hendon, says, a necessary preliminary to theorizing on the aviation structures of the future is a consideration of the structures of the present. These are met with at every aviation ground, and consist of the workshops in which the aeroplanes are constructed and repaired, and the " hangars," or sheds in which they are housed.

These buildings—workshops and aeroplane-sheds—as at present constructed are of wood studding covered either with boarding or corrugated iron, and the roofs being light corrugated iron structures. In course of time, when the twin industries of aeroplane construction and aerial transit are established, buildings of this slight construction will not suffice. Corrugated iron in our climate must be painted every year or so, otherwise the galvanizing wears off and the material rusts through. The cost of maintenance is thus very heavy, and even if the material is well painted a life of more than thirty years is hardly to be expected. These remarks do not apply in quite the same degree to buildings with boarded enclosures, but there is the risk of fire to be considered, and in consequence this method of construction is prohibited by practically all local by-laws, except in situations remote from other buildings. All things considered, there seems no reason to suppose but that, when our knowledge of the requirements has been evolved from experience, aviation buildings will be as permanent in construction as those now erected in connection with the motor car industry.

Forms of Construction.

When consideration is given to the form which this permanent construction will take, it is, however, a question whether plain brickwork will hold its own, or whether it will have to give place to one of the more modern forms of construction. As regards the aviation workshops, these, in common with new workshops of other kinds may very probably be constructed of a steel skeleton filled in with brickwork, or reinforced concrete. Aeroplane-sheds, necessarily being, it is presumed, one storey buildings of moderate height, will hardly lend themselves to steel-frame construction, but it would appear that reinforced concrete is particularly suitable for structures of this character, particularly if it is possible, as I believe now to be the case, to form water-tight roofs of this material without asphalte or any other kind of covering.

One special constructional point in the design of aeroplane-sheds, appears to be the doors or shutters to close the necessarily large main openings. At the London Aerodrome the constructors of the aeroplane-sheds have exercised considerable ingenuity in the design of the wooden doors. It is evident that if the ordinary practice of making two folding doors to the main opening of a structure were adopted in the case of an aeroplane-shed, such doors would, on account of the great size of the opening, be unwieldy, and the task of manipulating them in a gale of wind would be dangerous. Hence the need for doors or shutters which can be folded into several sections. While such a contrivance as that of having wooden shutters with vertical pivots sliding in grooved iron bars at the top and bottom of the opening may be efficient enough to warrant its occasional adoption in permanent buildings, it seems probable that, in the best class of work, steel rolling shutters, similar to those adopted in tramcar-sheds will be employed. Such shutters need not be in large widths, and would thus cause no difficulty in operation, while the advantage of having the shutters entirely out of the way when not in use is very evident.

A further important constructional point which does not occur in modern aeroplane-sheds, but may be anticipated in future constructions, is the obtaining of large floor-spaces with the minimum of columns or stanchions. At present the aeroplanes in use are comparativey small, and it is not customary to put a number of aeroplanes in one shed. But, in due course, depots will doubtless be constructed to contain a considerable number of aerobuses, and with these vehicles exceeding by many times the size of a modern biplane it will be necessary to keep the floor-space almost entirely free from columns. To effect this with due regard to economy will not be easy, but probably by a skilful use of reinforced concrete the problem will be satisfactorily solved.

With the development of the science of flying, it is to be anticipated that before very long an aeroplane-shed will be a necessary complement to the outbuildings of a well-equipped house. The only special question which appears to arise in connection with such a building is the provision of a sufficient space for starting in front of the shed.

TOWN LANDING STAGES.

Structures of this kind referred to already exist as a guide, and, in any case, the uses to which the buildings are to be put are not such as to necessitate any striking departures in construction. When the landing stages to be erected in large towns are considered, a more difficult case for speculation occurs. Since town arrival and departure stations will require to be formed in populous districts where land is of considerable value, it will be a financial impossibility to provide open spaces at ground level of sufficient area to enable aeroplanes to descend and ascend without running the risk of coming into contact with the adjoining buildings. Hence the necessity for landing stages a little above the level of the buildings.

If, as seems certain, tall landing stages are to be erected in districts where land is very valuable, it will obviously be desirable to utilize the space below the landing stage—*i.e.*, to erect ordinary buildings upon it. But if the site is cleared, and the buildings and the landing stage are to be erected at the same time, the question will at once arise, Why not form them as one structure ? If this is done, it will be obviously a waste of space to provide separate legs for the landing stage, as such stage can be easily supported on the walls or other enclosures of the building. Thus, the aeroplane landing stage of the future will probably be nothing more than a large and lofty building with a flat roof, on which and from which the aeroplanes will alight and depart. Lifts will of course be provided from the landing stage to the street level. The necessary waiting-rooms etc., in connection with the aviation service will be placed in the top storey, and the lower storeys let as offices or for trade purposes.

With aeroplanes of present-day size probably a landing stage 80 ft. to 90 ft. in width and about 200 ft. long would suffice to provide both departure and arrival platforms side by side. But, with the machines increased very considerably in size so as to be able to carry a fair number of passengers, it would seem that an area of at least 200 ft. by 200 ft.—nearly that of the Selfridge building, Oxford Street—would be required. Then there is the question of height. The ordinary limit of height for London buildings is 80 ft. to the top of the parapet *plus* two storeys in the roof, which results in a height of, roughly, 100 ft. from the street level to the ridge of the roof. Having regard to the desirability of being above all roof eddies, it would seem that the landing stage level should be about 120 ft. or 130 ft. above the street. This may appear an excessive height in a position where the surrounding buildings are comparatively low, but, except in a case where the immediately adjacent ground and buildings are in the ownership, or by some other means are under the control, of the body erecting the landing stage, it will be a questionable policy to erect a stage of less than this height. For, if such is done, there will always be the risk of its utility being jeopardized by the erection of new buildings, or the reconstruction of existing ones, to the legal limit of height.

As regards the form of construction to be adopted, neither brickwork nor stonework are suitable, if economy is a consideration. Both steel and reinforced concrete possess great advantages over the older forms of construction in the case of the erection of lofty buildings. As to which of these two forms of construction—a properly encased steel frame or a scientifically designed arrangement of steel and concrete—is likely to be adopted, it is hard to say. Probably both forms will find their supporters. A great deal has lately been written in praise of reinforced concrete, but the advantages of a steel frame for a lofty structure must not on this account be overlooked.

Situation of Aviation Structures.

A treatment of the aviation structures of the future is hardly complete without some reference to the situations in which they are likely to be erected. Having regard to the great distances that aeroplanes are able to cover in a few minutes, it seems reasonable to suppose that the sheds for the storage of the machines will be erected in the extreme outer suburbs of our towns, where land can be purchased at very little above agricultural value. The workshops will doubtless adjoin the sheds, but, of course, there will need to be a workshop or two in the heart of a town, so that urgent repairs can be dealt with without delay. The landing stages in towns of ordinary size will doubtless be erected in the centre of the inner commercial districts. It will then be possible for business men to come direct to their offices from country districts some twenty-five or thirty miles out in the short space of half an hour. In very large cities, in London especially, it is questionable whether the responsible authorities will not do well, for reasons of public safety and convenience, to reserve a small area in the extreme centre of the commercial districts within which flying is prohibited, the landing stages in such case being erected at intervals along the boundary line enclosing such area. There is a good deal to be said for such a restriction.

As an illustration of what is likely to take place when aeroplane transit is established as one of the ordinary forms of locomotion, let London be considered. As regards the housing of the aeroplanes, the necessary buildings will probably be erected, for the most part, well outside the present county area. The land on the south of the Thames beyond Woolwich will probably be found to be especially suitable for the erection of aeroplane sheds and workshops, as it is cheap, and materials, machinery, etc., may be conveyed to it by water. The question of the situation of the landing stages in the inner districts of London is a very attractive one for speculative thought. If flying is to be allowed without restriction over the whole of London, the obvious position for the principal landing stages will be along the Oxford Street and Holborn route, from the Marble Arch to the Bank and on to Aldgate, this being the backbone of business London. The Strand route, from Piccadilly Circus to the Bank, being next in importance, would of course be similarly served. But it is very questionable whether the erection of landing stages in the very centre of London should be allowed. The reservation of a comparatively small area in the centre of London for ordinary surface and underground transit would tend to prevent any congestion of aeroplane traffic, with its obvious great dangers, and probable injurious effect on the subjacent locality. Such an area might be bounded on the north by the Marylebone, Euston, and Pentonville Roads, on the west by a line following the ordinary omnibus route from Chapel Street *via* the Marble Arch and Hyde Park Corner to Victoria, and extended to Vauxhall Bridge. On the south the river would appear to constitute the natural boundary, and on the east a line could be arranged to extend from the City boundary adjoining the river, through Aldgate to the Angel, Islington. Even with our present means of locomotion any part of central London can be reached in less than ten minutes from some point on this suggested boundary line. The extra time in transit which such a restriction would involve is therefore comparatively trifling, and the little inconvenience would be very greatly outweighed by the advantage of having this clear area reserved in the centre of the metropolis.

Although the problem is one which the allied professions of engineering and architecture will be required to solve, yet very great interest will be taken in what the aviators themselves have to say. For on this subject they may be expected, if not to pay the piper, to have at least some voice in setting the tune.

Registration of Architects.

The Society and the R.I.B.A.

The result of the R.I.B.A. elections will doubtless be a surprise to many. It obviously means some change in the policy of the Institute and if it results in a levelling upwards, instead of downwards, we shall be sincerely glad. We quite believe that some day the evil results of thinking too much of architects and too little of architecture will be apparent. We all want to earn a comfortable living, of course, but that does not necessarily mean architecture. When a certain man protested to Voltaire that he must live, and Voltaire replied that he did not see the absolute necessity, the case was stated as between architecture and architects.

We suppose we may take for granted that amalgamation with The Society of Architects is now impossible. It is to be hoped that between the two architectural bodies the ground will not be prepared for still another whose main concern will be the *Art of Architecture.—The British Architect.*

From a statement circulated by the President of The Society of Architects it seems doubtful if the federation of that body with the Royal Institute of British Architects will take place in the near future. Both bodies apparently agree on the principle of registration but differ widely in their views as to details. Moreover, the Council of the Society seem to have gone further in their proposals regarding federation than its own members considered desirable, for we learn that the latter severely criticized the proposals. There is thus a dead-lock as regards fusion and the only joint action now proposed to be taken is the promotion of a registration bill which, we presume, will have to be boiled down in some way as to be agreed to, though not exactly agreeable to both. They see that registration is necessary, also that they must combine to get it, but the terms can scarcely be satisfactory in the face of existing difference.—*Indian Engineering.*

The business man has again cropped up in the question of the Registration of architects. It is the inevitable herring drawn across the path. " It is now generally accepted as an axiom," we read, " that the architects of Great Britain who are in favour of Registration outnumber those who are not so disposed in the proportion of eight to one. But the minority includes many of those who have attained prominent positions as able artists and successful practitioners. Amongst these able artists are some who adopt business methods which in the professions of law and medicine would cause their names to be erased from the register. Naturally, therefore, they are strong opponents of Registration for architects." We consider the premises, illustrations, and conclusion of this argument to be equally mistaken. In any case, a man who is at once an able artist and successful practitioner can very well allow such criticism to go by the board, and certainly if such men are against Registration their opinion ought to carry more weight than those of less proved capacity. The business of architecture is the production of fine buildings, and a man who is absorbed in this view of his art may often be inattentive in smaller matters. But he rarely is. We do not know who the writer of the article in question has in mind, but our experience of the merely business methods of our prominent architects is probably not less than his, and we cannot agree with him. Not only as a rule, but almost inevitably, the type of mind that can create good architecture is more competent to consider the higher aspects in regard to architectural policy than that engaged first of all in comparatively the elementary problems concerned with business methods. In the same article we read that the Institute must "recognize and placate The Society of Architects if Registration is to obtain the approval of Parliament." But why should this question arise ? When the Institute promotes a Bill it will be in the interests of the profession as a whole in which the Society will be necessarily included, and not in the interests of any one section.—*The Builder.*

Registration in New South Wales.

Mr. C. Sydney Jones, A.R.I.B.A., in the course of his Presidential address to the Institute of Architects of New South Wales, said, Registration of architects is one of the "planks of our platform." We consider it a very important plank—important from the public point of view, as well as from the view of the architect. It is often forgotten by the public that an architect is in a position of trust ; he has the handling and disposal in his clients' interests of very large sums of money, and it is one of the easiest things in the world to be unfaithful to his clients' interests, and to enrich himself by so doing. The registration of architects aims at preventing this by compelling the unscrupulous architect to act honestly by his client. It also aims, amongst other things, as improving the public taste in architecture by registering only those who prove themselves by examination to be competent to practise as architects. It is by means of such a Bill also that the public welfare in matters of æsthetic construction will be fostered. The most conservative body of architects in the Empire—the Royal Institute of British Architects—has lately decided in favour of registration ; surely then, this country, which boasts as being in the foremost van of progress, will not be lacking in support of the Bill. We, at least, intend to do our best to further the Bill during this year.

Shortly afterwards, when paying an official call on the Hon. Arthur Griffiths, Minister for Works, the President pointed out that this important measure (Registration), was in operation in France, also in many of the States of Canada, and the United States, and he mentioned that in the State of Illinois, after the total extinction by fire of Chicago in the year 1871, when over 190,000,000 dollars worth of buildings were totally destroyed, rendering 98,500 persons absolutely homeless; the people of that State insisted on the State Parliament at once passing a measure for the registration of all architects, to ensure the safety of the people. The desire for registration was practically unanimous throughout all the six States comprising the Commonwealth, and also that the Royal Institute of British Architects, the parent institute of the British Empire, are at present formulating a Bill for registration to be brought forward in the House of Commons at an early date.

Registration Act for the South African Union.

It is evident from the remarks of Mr. A. H. Reid, F.R.I.B.A., the President of the Cape Institute of Architects, that the promoters of the scheme for the extension of the Transvaal Architects' Act to the remaining provinces of the South African Union are beginning to experience those difficulties in Parliamentary procedure which have so hampered the Registration movement at home.

We must all feel disappointed for the South African Union, he says, at the little progress made with our Registration Act, but it has been quite unavoidable for, even had the three other Provincial Institutions come to terms, it would have been impossible to get a private Bill introduced at this session of the Union Parliament on account of the pressure of Government business.

As matters stand now, it appears that the South African Branch of The Society of Architects (London) is not satisfied with certain clauses in the draft Act, and, in deference to their opinions, your Council asked them to definitely submit the alterations that they desire. These reached us on January 30th, and copies have been sent to all other interested bodies for their opinions. As two out of the three are centred in Johannesburg, we hope the advantages of personal discussion will produce a speedy settlement. The Natal Institute seems to be more in unison with our ideals, but I feel that it would be most unwise to "force the pace" and perhaps have a disinterested party to our compact.

I hope to arrange another conference of practising architects when the draft Bill has been finally approved. There is over £100 in the bank here to the credit of Registration Act account.

We are all awaiting with interest the announcement of the amalgamation of the Royal Institute and The Society of Architects (London).

A Town Planning Tour.

The Garden Cities and Town Planning Association of 3, Gray's Inn Place, W.C., are arranging for another visit of members of German municipalities to inspect English Garden City and Housing schemes under the guidance of Mr. Culpin, the Secretary.

The party will arrive in England on August 18th, and the next fortnight will be spent in visits to housing schemes at Hull, Earswick, Port Sunlight, Bournville and Knebworth, the Garden Suburbs of Wavertree (Liverpool), Harborne (Birmingham), Hampstead, Ealing, Ilford, and Letchworth.

Municipal Housing will be studied in the various towns visited and the estates of the London County Council will be visited.

The visit affords an excellent opportunity for town planners in England to meet those who have done similar work in Germany, and any architects who would like to join the party are invited to communicate with Mr. Culpin.

A Summer School of Town Planning.

The rapid progress of the Town Planning movement and the coming into force of the Town Planning Act have made it necessary for members of Municipal bodies and those engaged in the offices of Architects, Municipal Engineers, and Surveyors to possess a knowledge of the subject which it is difficult for them to acquire.

With the view of meeting to some extent this urgent need, there will be held in London during August a Summer School dealing with the science and art of Town Planning, at which opportunities will be provided for the study of the subject by councillors, professional men and others.

The Summer School will extend from August 3rd to 17th. The Lectures will be given at the Institute, Central Square, Hampstead Garden Suburb, which has been chosen as the centre for the School, because, as a carefully-planned Suburb it affords a good opportunity for studying the results of town planning methods. Some 240 acres have been already laid out and over 1,000 houses built. The Suburb is about to extend for a further 400 acres, which are now being planned and which will be included in a town planning scheme that is being prepared by the Finchley District Council. The work of laying out this land will be actually in progress at the time the Summer School is being held: students will therefore have ample opportunity of studying the work already done, and of considering on the spot the problems arising in connection with the planning of the larger area and with the town planning scheme promoted by the District Council.

Further information may be obtained from the Hon. Secretary, Mr. J. S. Rathbone, The Institute, Hampstead Garden Suburb, London, N.W.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

SIR,

Summer School of Town Planning.

Has your attention been called to the opportunities offered by the Summer School of Town Planning to be held at the Hampstead Garden Suburb from August 3rd to 17th ? We seem likely to have a very good gathering of people, and have still room for a few more students. I think that the opportunity to hear about all the different aspects of Town Planning is one which should appeal to the many who must now, in one way or other, be brought into contact with this work.* I enclose herewith papers giving particulars of the School.

July 20th, 1912.

Yours faithfully,

RAYMOND UNWIN, F.R.I.B.A.

SIR,

Architecture in India and South Africa.

The suggestion made in an article in *The Times* of the 5th inst., that Mr. Herbert Baker's Renaissance design for the Rhodes Memorial in South Africa, would be a very useful precedent to follow in the building of the new Delhi, seems to me to indicate a complete misconception of the latter question and entire ignorance of Indian conditions. When such an *ex parte* statement is made as that the Renaissance is " the only civilized architecture of the modern world," one is tempted to ask whether the world should be taken to mean the Western Hemisphere, Europe, or only Great Britain. The Renaissance is certainly not the only architecture of Oriental countries, and some parts at least of the East may be considered civilized.

The great difference between South Africa and India, architecturally, lies in the fact that whereas the former has no architectural tradition and no indigenous skilled craftsmen to be employed, the latter has kept alive a building tradition bearing the impress of a highly developed civilization and carried on in the present-day by thousands of highly skilled craftsmen. The question to be settled now is whether the building of the New Delhi, with its promise of a new era of greater sympathy and respect for Indian traditions, is to be used, according to the departmental precedents, as another occasion for foisting these eclectic European architectural styles upon India, thus reducing the skilled Indian craftsmen to a state of intellectual starvation by compelling them to copy the patterns of the departmental architects, or whether an effort should be made to restore to them the reasonable opportunities for using their creative faculties which everyone who has the welfare of India at heart would desire them to have. The process of carrying out Renaissance designs may or may not be artistically useful to the South Indian craftsman; for the Indian master builder it can only be degrading whether the designs are good or bad. Professor Lethaby in his excellent handbook on Architecture says, that if we would seriously set to work in reviving decorative designs in Europe, the best thing we could do would be to bring a hundred craftsmen from India to form a school of practice. Are we *per contra*, to send a hundred architects to India to spoil Indian art with Renaissance designs ?

July 10th, 1912.

Yours faithfully,

E. B. HAVELL, A.R.C.A.

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*[The matter is referred to on the opposite page.—ED.]

The National Insurance Act.

The Position of Architects' Assistants.

We have heard it stated that engineering assistants must be insured, irrespective of the amount of their incomes, on the ground that they are manual workers, if so, it seems to us that the same argument might apply to architects' and surveyors' assistants. On the other hand, it appears to be fairly clear that it is the manual labourer only that comes under this category, if, as we understand is the case, it has been decided by law that there is a very marked distinction between a manual worker and a manual labourer, so that an architect on leaving his office does not cease from his " labours " but from his " work." This would appear to a layman to be a distinction without a difference, and is no doubt one of those conundrums which the overworked Insurance Official would desire to be spared from tackling at the moment.

The Architects' and Builders' Journal publishes some observations on the matter from which we extract the following :—

An architect's assistant whose rate of remuneration does not exceed in value £160 a year is subject to the Insurance Act unless (a) he is under sixteen or over seventy years of age or (b) is an indentured apprentice working without any monetary payment, or (c) is in receipt of £26 and upwards per year not dependent on his personal exertions, *i.e.*, " private means " (in this case the employer pays 3*d.* per week, the assistant nil), or (d) is employed under the Crown or any local or other public authority, and a " certificate of exemption " is obtained from the Insurance Commissioners.

The assistant having obtained a contribution card from the Post Office, or if he is already a member of an approved sick or friendly society, from his society, will hand it to his employer who each week buys a 7*d.* stamp, sticks this on the assistant's card, and deducts 4*d.* from the assistant, but if preferred the stamps may be purchased monthly for assistants whose salaries are paid monthly. The only exception to this rate is in (c) above, or when the assistant is over twenty-one and yet earns less than 15*s.* a week, when special (low) rates are charged.

The stamp must be cancelled by writing on it the date corresponding to the week for which the insurance is paid. The official week starts on the Sunday midnight, and the employer must, before any payment of wages, affix in the proper space on the contribution card a stamp of the value of the joint weekly contribution for each week for the whole or any part of which the wages are payable and in respect of which a stamp has not already been fixed, but for all contributions payable in respect of the period to October 13th, 1912, stamps must be affixed by that date whether the wages for the period are paid or not.

Strictly speaking, the stamps should be affixed each Monday, but so long as the assistant continues in health and in the service of the same employer it will be sufficient if all stamps are affixed on or before October 13th, 1912, and the corresponding day for each subsequent period of thirteen weeks. If the employment ceases or the assistant formally demands it, the employer must affix the stamps up to the date of cessation of employment or within forty-eight hours of the formal demand by the assistant.

Even if the stamps are affixed in advance, the 4*d.* weekly cannot be deducted from the salary or wages of the assistant until the day on which the wages are paid, *i.e.*, they cannot be deducted in advance.

The wise assistant will join an approved society, so as to obtain the full value of the benefits under the Act. Otherwise, he will have to become a Post Office depositor, and will then only receive as sick benefit the sums he and his employer have paid in, less 13*s.* 9*d.* per year for sanatorium and medical expenses, and plus 2*d.* (State grant) for each 7*d.* stamp used. If he is a member of an approved society he can continue to receive benefit to the end of his illness, no matter how long it may continue.

Some assistants occupy such a social position that they would not care to receive sick benefit or the services of the insurance doctor. These should become Post Office depositors, and on their death the sums of their credit can be withdrawn by their executors or other legal representative. The same applies to those gentlemen who think it would prejudice their peace of mind and impair their health if they failed to pass the strict medical examination imposed by all the approved societies. There is no medical test for Post Office depositors.

A Post Office depositor must not be confused with those who have money in the Post Office Savings Bank. The two have no connection whatever.

The assistant should see that the employer does not do anything—such as the stoppage of a normal rise of salary or wages—which will have the effect of making the assistant pay the whole 7*d.* per week. The Act specially prohibits the deduction of the employer's share (3*d.*) from the assistant's wages or salary.

Unemployment insurance does not appear to concern the ordinary architect's assistant, it being reasonable to assume that he is not engaged " wholly or mainly by way of manual labour."

Resident Architectural Scholarships.

Two Resident Scholarships, of the value of Seventy Guineas and Fifty Guineas respectively (or alternatively, at the discretion of the Assessors, of Sixty Guineas each), and tenable for one year at the Studio of Mr. G. A. T. Middleton, A.R.I.B.A. (Hon. Librarian and Past Vice-President), at "St. Vincents," Clarence Road, Clapham Park, London, S.W., are offered in competition amongst Students of the Society on the following conditions :—

Applications, accompanied by a portfolio of drawings and such other evidence of qualification as the candidates may care to submit, must be lodged with the Secretary of The Society of Architects, 28, Bedford Square, London, W.C., not later than noon on Saturday, August 10th, 1912.

There is no special form of application, but testimonials should be sent as to character and ability, at least from present or last employer, and also an undertaking to pay the terminal fees and other expenses, signed by the person who will become responsible.

NOTE.—The selection of the scholars has been left by Mr. Middleton in the hands of Assessors appointed for the purpose by the Council of the Society, and they will be guided in their selection by the merit and promise of the drawings and other evidence submitted to them, due allowance being made for age, it being particularly desired to nominate candidates who will work hard and obtain the greatest benefit from the opportunity thus afforded them. The decision of the Assessors will be final on any point arising out of the Competition or the selection of the Scholars.

Though each scholar will be nominated for one year, it is possible that this period may be extended if exceptional progress be made and the circumstances justify it.

The following are some of the regulations laid down by Mr. Middleton in connection with his Studio Course, further details of which must be obtained by the candidate from Mr. Middleton, at 19, Craven Street, Strand, W.C., before entering for the Competition.

The selected applicants must go into residence on Monday, September 2nd, 1912, and study for three terms with the object of entering for the qualifying examination for Membership of the Society.

They must comply with the reasonable regulations of the Studio, and will be liable to dismissal at any time in the event of misconduct or absence without adequate cause, at the Principal's sole discretion.

They must provide their own drawing boards, tee and set squares, instruments, colours, books, paper, pencils, etc., and pay for their own incidental travelling and other expenses when taking part in visits to Museums, buildings and works.

Each term will extend for approximately eleven weeks, commencing in the first week of September, the second week of January, and the second week of April. Full board and residence will be provided for the whole of each term. The Studio hours will be so arranged as to allow one half-holiday each week and other reasonable periods of recreation, for which the grounds attached to "St. Vincents" afford ample opportunity.

The holders of the Scholarships (or their parents or guardians if they be under age) will be required to pay the balance of the full residential fee of 130 guineas per annum, in three terminal instalments on the first day of each term. Thus the holder of the greater scholarship will pay 20 guineas (£21) per term, and the holder of the lesser will pay £28 per term; or £24 10*s*. per term each, will be payable if the Scholarships are equalized.

Congresses of Art and Archaeology, Rome, Oct., 1912.

Members of the Society and their friends who propose to attend the very interesting Congresses which will be held in Rome during October :—the International Congress of Archæology from the 9th to the 16th, and the International Congress for the study of the History of Art from the 16th to the 21st, or either of them, may like to know that the following tours are being arranged by Mr. G. A. T. Middleton, A.R.I.B.A., of 19, Craven Street, Strand, W.C.

I.—A tour through Italy, leaving London on October 5th and 12th, and travelling via Folkestone, Boulogne, Lucerne and St. Gothard, to Milan, Rome, Naples, Florence, Venice, and Lugano.

II.—A tour to Rome for those who desire to attend the Congress only, leaving London on October 5th and 12th.

III.—A tour to Rome for a period covering either Congress leaving on October 5th and 12th, travelling via Folkestone, Boulogne, Lucerne, St. Gothard, the Italian Lakes, and Milan, returning by the same route.

The probable cost of the Tours will be, Route I. 21 guineas ; Route II., 13 guineas ; Route III., £17 5*s*. 0*d*.

Those who would care to join one of these parties, should communicate with Mr. Middleton. They will not commit themselves to anything by so doing ; but it is necessary to have some idea of the number who will avail themselves of these arrangements.

Board of Examiners.

The Council have appointed Mr. George A. Paine, of 62, Moorgate Street, E.C., Examiner on Section IIIa., contracts and specifications, in the place of the late Mr. Richard Willock, F.R.I.B.A.

Right of Clerk of the Works in Relation to Materials.

It has been decided that the clerk of the works who is employed in connexion with a building contract may be vested with authority to reject materials. In *Graham* v. *the Commissioners of Works* ("Emden's Building Contracts," fourth edition, p. 670.)

The Master of the Rolls, in giving judgment, said: "It is perfectly obvious as a matter of business that one cannot expect an architect to go into every detail himself, and I have no hesitation in holding on the authorities that the architect, having himself first ascertained that the timber being used is not of the stipulated quality, is perfectly entitled to delegate the duty of particularizing which of the timbers must be removed."—*The Builder.*

Students' Quarterly Design Competitions.

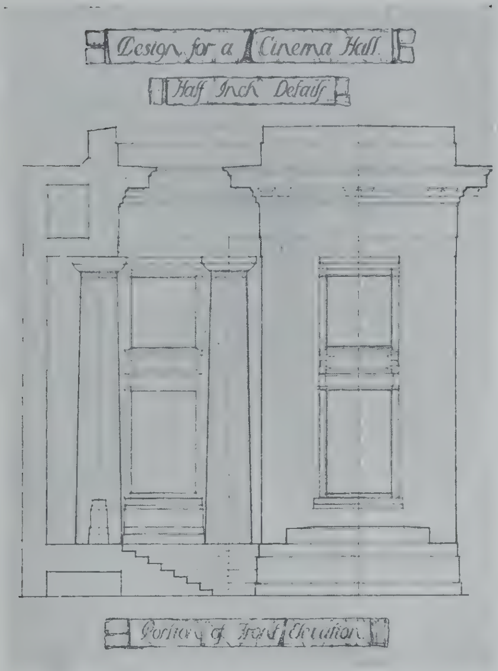
Four sets of drawings were submitted in competition for a design for a Cinematograph Theatre, to accommodate 500 persons. The Council have awarded the first place to Mr. Dan W. Thomas, of Derby.

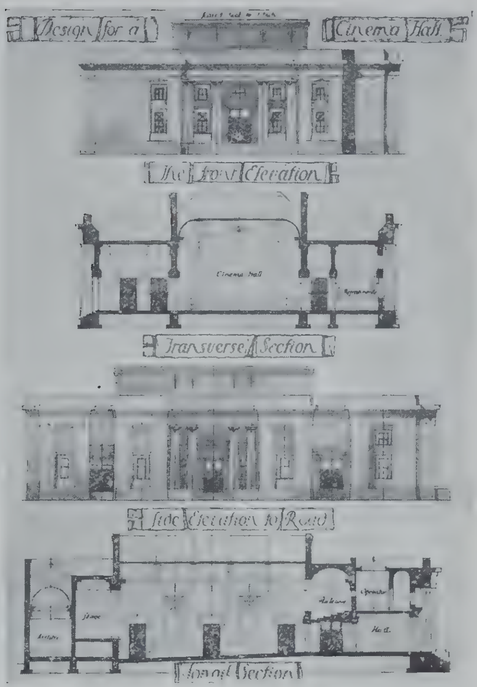
Although this is the first time that Mr. Thomas (who served his articles with Mr. Beddoes Rees, of Cardiff) has been successful in the Society's Competitions, he has had better luck in larger ones, his design for a Public Hall being placed first at the Royal National Eisteddfod, held at Carmarthen, last autumn.

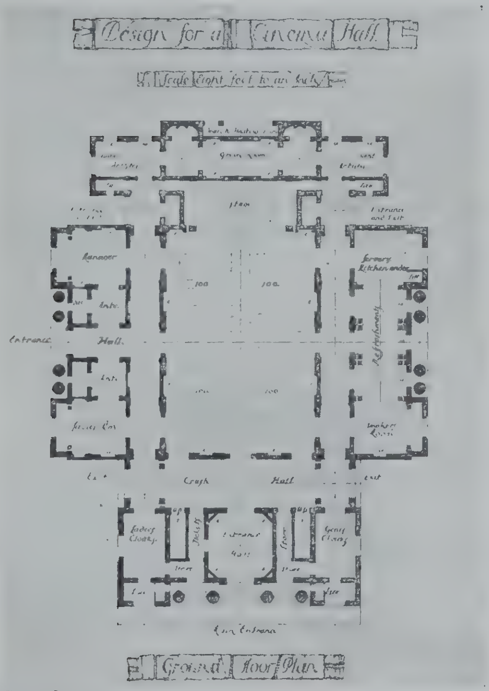
The winning design is illustrated in this issue.

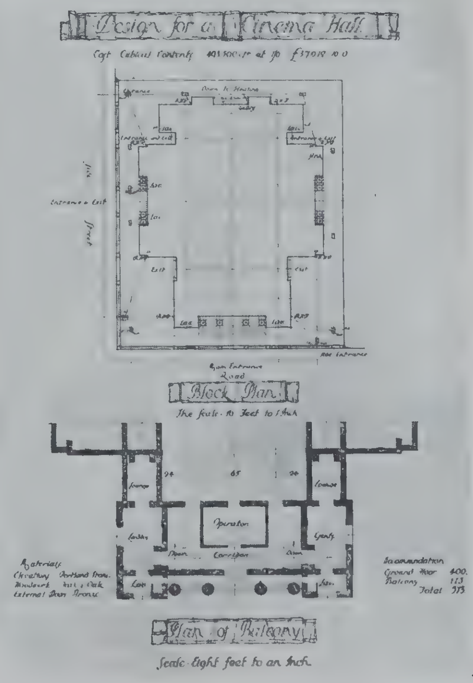
The Essay Competition only produced one competitor, Mr. Thomas Rayson, of Oxford, who has been awarded the prize. The subject of the essay was "Ornament, and its application to Buildings."

Mr. Rayson, who passed the Society's Qualifying Examination for Membership last October, is an Assistant in the offices of Messrs. N. W. & G. A. Harrison, of Oxford. The prize essay will be published in due course.









STUDENTS' DESIGN COMPETITION. CINEMATOGRAPH THEATRE. BY MR. D. W. THOMAS. PLACED FIRST.

Russian Women Architects.

Press reports state that Russia has just turned out nine certificated women architects, and that they are the first in Europe. All have finished courses of study of architecture, engineering and practical building.

The women architectural courses from which these nine graduated were started four years ago at the expense of Mme. Molas, and of Mme. Bagayeff. The instructors are professors, who at present have forty odd pupils. Although all these fully fledged architects are under 25 years old, some of them already have achievements to their credit.

Mme. Triassoff who specializes in the building of school premises is said to have had such success with her designing work that she has been invited to go to Germany, an honour that has been accorded to no Russian male architect.

These women architects, who are not at all "new women," but young and attractive girls, have undergone the same practical tests as are applied in the case of male students.

Two received practical training under the St. Peterburg Street Car Commission; another pair worked on the new Neva bridge at Ochta; others helped the construction of a six-story steel house in the Koniushennaya street. The remainder supervised house building under the direction of private architects of reputation.

For several weeks Mlle. Kasperoff was in charge of the house breaking operations connected with a steel building, and had then under her two score of the roughest workmen in Russia, who behaved splendidly, and got through a quarter more work than is usual when a man is in charge.

She had trouble once when a workman attacked her with a shovel. The other workmen came to her assistance and nearly beat the offender to death. "The moral effect of a woman in charge of men," says Mlle. Kasperoff, "is usually tremendous."

St. Petersburg professional circles are waiting to see how the fair architects will get on when they begin to work independently. The innovation is not opposed by male architects, as it is an article of faith among Russia's liberal professional classes that feminism is justified.

Trouble, however, is probable from the official side. It is expected that the Government will stretch the present vague law in a sense unfavourable to the women, as it did two years ago against the first female lawyer.

The present law does not give women architects any definite rights; but it does not deny them rights. They will probably not be allowed to participate in competitions for public building designs, but there is nothing to prevent them practicing as private architects, and building houses for themselves or for others.—*Construction.*

Review.

The First and Chief Groundes of Architecture. By John Shute. First printed in 1563. A facsimile of the First Edition with an Introduction, by Lawrence Weaver, F.S.A., Hon. A.R.I.B.A. Country Life, Ltd. Price 15*s*.

It is obviously unnecessary to review, in the ordinary sense, a book which was first published close upon two and a half centuries ago; but only right, and justly due, to compliment Mr. Weaver upon having now reprinted it in facsimile together with a carefully compiled Introduction of his own, containing a mass of important information and learned criticism in readable form. All who turn over the pages will agree with him in admiration of the stately language used by this English writer upon architecture of a time gone by, and of the powerful illustrations which accompany the letterpress, while smiling (but in kindness) at the quaint conceptions of caryatidœ and the imperfect sense of scale displayed in the sculpture generally. But mostly have we of the present day to thank John Shute for his declaration in the Preface of the essential dignity of architecture. It appeals to Mr. Weaver, who quotes it, and no better can be done than to quote it here, that "Surely suche is the amplitude and largnes (I may well say perfection) of this facultie, that without sum acquaintaunce with many other artes ye shall not enter into the depe secretes."

The Swedish Domestic Heating System.

The first thing noticed by a stranger to these islands, says the *Journal of the Swedish Chamber of Commerce in London*, is the heating system, which is, from his point of view, unsatisfactory. The ordinary English coal fire, however cheerful and homely it may look, does not heat a room properly, but we fear that the old-fashioned English coal fire will not vanish while coal is produced in these isles. The question then arises: "How can the coal fire be retained, and, at the same time, its efficiency be increased?"

The writer thinks that if a trial were given to some of the types of Swedish stoves, houses with Swedish heating installations would soon be in demand in a country like England, where the climate is rather damp.

The great advantage of the Swedish stove is stated to be that the tiles of which it is composed are thoroughly heated through heating channels. The heat, therefore, radiates from the stove long after the fire has gone out. On the other hand, most of the heat from an open English coal fire escapes with the smoke through the chimney.

The general idea of the Swedish heating system apparently involves the use of a stove so large that it would not appeal to the English housewife. Rooms in English houses are, as a rule, smaller and lower than those in Swedish houses, and a stove reaching to the ceiling might not appear attractive. The Swedish manufacturers are however apparently laying themselves out to provide stoves suitable to English houses and conditions.

Records of Buildings.

The Secretary will be glad to hear from any Members or Students in or near London who are prepared to devote their spare time, in an honorary capacity, to making black and white measured drawings and sketches of buildings for record. The work is of a kind which should appeal to Architectural Students, who are desirous of extending their experience in this direction, and there is scope for a number of workers and for the co-operation of friends mutually interested.

The Case Against Tall Buildings.

Chief Officer Webb, M.F.B., Sydney, in an article in "Art and Architecture," expresses the opinion, based on a world's experience on Fire Brigade Work, that tall buildings are detrimental to the welfare of a nation from the points of view of health and safety.

Tall buildings eliminate the sun from the streets, and so-called fire proof systems of construction have failed when put to the test, as in the case of the Parker Building Fire, in New York. They also increase the difficulties of fire protection, and the expense of Fire Brigade equipment, and he suggests that if adequate fire protection to any building is not available above a certain height then that building should be limited to such height.

Examinations for Membership.

An Examination to qualify for Membership in The Society of Architects will be held in London, Manchester, Leeds, Cardiff, Birmingham, Oxford and Dublin, on October 1st, 2nd and 3rd, 1912. The latest date for entering for the Examination is September 9th, 1912.

Candidates for the Examination must be 21 years of age or over, and have served at least three years' pupilage to an architect, or produce such other evidence of architectural training as may be required by the Examiners.

Students of the Society may take the examination by sections at a fee of 15*s.* for each section, or in the case of students who are 21 years of age or over, the whole examination at one sitting for a fee of one-guinea-and-a-half: in each case under the above conditions as to procedure if relegated or successful.

Certificates of proficiency will be awarded in those sections in which a Student candidate qualifies, or a full certificate as the case may be.

A holder of the four sectional certificates of proficiency issued by the Society, or their equivalent in certificates of exemption, who has attained the age of 21 years, may apply for the full certificate entitling the holder to make an application for membership.

Further particulars may be obtained from the Secretary.

Professional Ethics.

A CURIOUS COINCIDENCE.

By somewhat of a coincidence, in the same week as the delivery of Mr. Harris's essay, a paper on cognate subjects (professional ethics) was read to The Society of Architects in London, by Mr. C. McArthur Butler, F.C.I.S., Secretary of the Society. We propose to reproduce Mr. Butler's paper in a future issue. There is, however, a difference in the treatment of the two papers, arising out of local conditions, which is interesting. Mr. Harris's paper was apparently drafted with some view to arousing general popular interest and sympathy, and having an eye to the pending Architects' Act of Union, while Mr. Butler's paper represented a careful collation of authorities and precedents, intended mainly for perusal within the profession, with many definite and practical suggestions which will be of great value in this country.—*The African Architect.*

AN AUSTRALIAN VIEW.

Mr. G. Sydney Jones, A.R.I.B.A., President of the Institute of Architects of New South Wales, says that a subject which the Institute will in all probability be asked to consider during the present session is a "code of ethics." It is unfortunate that such codes have to be published, but, as elsewhere, so in this country it has been found necessary to remind some members of the profession who are over keen in pursuit of business that there is a marked line, to step over which is undignified not to say dishonourable ; and the object of the code is to prevent these lapses by appealing to the better side of a man's nature, to uphold the dignity of his honourable profession, and to conduct his business affairs only on lines which are worthy.

A CODE FOR PATENT AGENTS.

Mr. H. Howgrave Graham, the Secretary and Registrar of the Chartered Institute of Patent Agents, in his paper "A Second Decade of Progress," read before the Institution last March, referred to the Bill for amending the law relating to Patent Agents, so as to prevent the possibility of evasion of the intention of the Act of 1888.

In the discussion which followed, Mr. George Barker, Vice-President, said it was very desirable to have a standard of professional ethics which would be acceptable to the majority of Fellows and the violation of which would amount to disgraceful conduct in a professional respect. The establishment of such a standard might demand, from a few, a little self-sacrifice, but what was that when the honour of the Institute and the whole profession was in question.

Engineers, Lawyers and Medical men have some such codes and he had noticed that recently the architects were discussing the establishment of a code for themselves ; so that the question naturally arose as to whether Patent Agents might not also have such a code.

Mainly about Members.

Mr. Norman K. Jackson, formerly Chief Assistant to Mr. R. W. Sampson, of Sidmouth, has opened an office in the Pearl Insurance Buildings, Portsmouth.

Mr. Albert E. Pridmore, Past-President, was recently again unanimously elected Churchwarden of St. Botolph's, Bishopsgate, and a Governor of the Bishopgate Foundation.

Mr. Arthur P. Harrison, of Keighley, has been successful in winning a local competition for designs for a Sunday School at Keighley, for the Baptist Church Trustees, to be erected at a cost of £3,000.

A new Church has been built at Hove, for the Presbyterian Church of England. The church will seat 500 persons and cost over £6,000. The architect was Mr. E. Proctor, and the design is hung in the Royal Academy Exhibition.

Twelve additional cottages are in course of erection at the Middlesex County Asylum, Napsbury, St Albans, for the County Council of Middlesex, from plans by Mr. H. T. Wakelam, m.inst.c.e., the county architect. The cost works out at £240 per cottage.

It is proposed to erect new headquarters for the National Naval Cadets on an island site in the Wandsworth Road. The area of the site is 18,000 square feet, the frontage to the road being 100 feet. The estimated cost of the scheme is £10,000, and the building is to be designed by Mr. T. Marcus Houghton.

Mr. Edwin O. Sachs, f.r.s.ed., has been accorded the distinction of a Knight (First Class) of the Royal Swedish Wasa Order, and the King has granted him permission to wear this decoration, which has been conferred upon him for the valuable services rendered by him in connection with the design of the Royal Dramatic Theatre at Stockholm.

The foundation-stone of the new Primitive Methodist Church and Sunday School, Tanfield Lea, Co. Durham, was recently laid. The buildings face the main road between Stanley and Tantobie, and the church is to seat 300 and the school 350. The design is Gothic, and the front of the church will have a large tracery window, glazed with leaded lights. The total cost will be over £2,200. The architect is Mr. J. W. F. Phillipson, Grainger Street, Newcastle.

Extensive alterations to shop premises at Aberkenfig, are being carried out for Mr. Ted Thomas, of that place, from the designs and under the supervision of Mr. Frank H. Heaven, a.r.i.b.a., of Aberkenfig (Student). Mr. Heaven has been successful in being bracketted with two others in winning the Council's prize for best work in the Constructive and Working Drawings Subject of the recent Intermediate Examination of the Surveyors' Institution, obtaining full marks.

The first section of the new central business premises of the Brixham Co-operative Society in Fore Street, are in course of erection. The facade above the shop cornice is treated with dressed local limestone pilasters and architraves, with Bath stone quoin blocks to the first floor showroom large windows. The main cornice parapet and dressings to gables above the second floor stockroom windows are formed of cast concrete. MESSRS. BRIDGMAN & BRIDGMAN, of Torquay and Paignton, are the architects.

The new parish hall which is now being erected at Plymouth, in connection with St. Matthias Church, from the plans of MESSRS. CARDER & CARDER, of 24, Lockyer Street, Plymouth, and 4, Prince's Street, Truro, will be of local faced limestone, having buff brick dressings to the door and window openings. The main entrance to the parish hall will be in Clifton Place, and additional means of ingress and egress will be provided from Clifton Place and Bedford Park. The size of the hall will be about 81 ft. by 42 ft., with a portion of the northern end divided off into two classrooms by means of revolving shutters. The roof is open-framed, the trusses and exposed timbers being stained and varnished to represent oak. Beneath the hall a basement storey will be constructed, comprising classrooms, kitchens, and lavatories. The building will be lit by electric light, and heated by means of hot-water pipes and radiators.

The freehold of the site on which the large new building for the Amalgamated Press in Farringdon Street, E.C., is now being erected, cost £58,000, and the new offices will entail an outlay of £75,000. The total area of the land on which the building stands is 22,000 square feet, and the height of the structure from basement to roof is 90 ft., its contents being about one and a half million cube feet ; the floor area is three acres, and there will be over five acres of plastering on the walls and ceilings. The basement will be occupied by printing plant. There are 120 rooms for offices, and two electric passenger lifts running at the rate of 250 ft. per minute. There is also an automatic lift for use of the staff. No radiators will be used, but the floors of the corridors will be laid with a prepared material in which the heating pipes will be embedded, so that the floor itself will radiate the heat throughout the corridors. MR. HERBERT O. ELLIS, of Fenchurch Street, E.C., is the Architect.

A County School is to be erected on a site of about one and a half acres at the Green, Tottenham, adjoining the public baths, and has been designed to harmonize with the several municipal buildings adjoining. The School provides accommodation for 405 boys and girls in sixteen classrooms, and also includes hall, chemical and physical laboratories, preparation room and dark room, cookery room, art room, manual training room, botany room, and greenhouse, dining room and kitchen, library, cloak rooms and laboratories, changing rooms, common rooms for teachers, principal's room, head assistant mistress's room, cycle stores, etc. Each classroom is arranged so that cross ventilation is obtained. The portion of the School fronting to the Green is faced with red brickwork and stone dressings, roofed with rustic slates and copper-covered flêche. Internal floors, beams, and lintels are of reinforced concrete, as also are the flats over corridors, etc. The School will be heated by low-pressure, hot water system, and lighted by incandescent gas. The plans have been prepared by Mr. H. G. Crothall, Architect to the Middlesex Education Committee. The cost will probably exceed £16,000.

Some South African Members.

We are indebted to *The South African Architect* for the following particulars relating to members of the Society in South Africa :—

Mr. McWilliam, of the firm of Messrs. Jones & McWilliam, of Port Elizabeth, took a unique position at the Annual Congress of the National Federation of Building Trade Employers in South Africa, which was held on April 15th in the town in which his firm takes a leading standing in the profession. Needless to say, he did his duty well, and spoke with effect on subjects that were discussed affecting the interests of the architects in South Africa. Mr. McWilliam was born at Aughnacloy, Co. Tyrone, Ireland, in 1873. He migrated to South Africa in 1880, and was educated at the Grey Institute, Port Elizabeth, and St. Andrew's College, Grahamstown. He was indentured for five years to Mr. G. W. Smith, A.M.I.C.E., architect, of Port Elizabeth, and was chief assistant, before the Boer War, to Messrs. Carter & McIntosh, architects. After doing service in the field during the war with Brabant's Second Regiment, Mr. McWilliam joined Mr. Victor T. Jones, M.S.A., and started practice in Port Elizabeth in 1902. He was elected a member of The Society of Architects (London), in 1903, and a member of the South African Institute of Quantity Surveyors in 1908. Since 1902 the firm has executed many of the more important buildings in Port Elizabeth.

Mr. Duncan Macdonald Sinclair is a son of the late Mr. Dugald Sinclair, of Port Elizabeth, Cape Colony, and was born in 1877, at Romford, Essex, England. He came to Port Elizabeth, C.C., in 1880, but returned to England in 1887 to study for his profession, and was articled to Messrs. Langham & Cole, architects and quantity surveyors, Ramsgate and Broadstairs, Kent. Mr. Sinclair returned to South Africa (Johannesburg) in 1896, and became assistant to Messrs. Philip & Leslie, Messrs. Carter & McIntosh, and Mr. J. B. Nicholson, architects, Johannesburg. He was afterwards partner for three years with Mr. W. M. Philip, and was consulting architect for the Rand Club for two years. Some of the buildings designed by him are the Trades Hall, Loveday House, Belfast Warehouse Company's building, Don Buildings, and various others, including residences. It should be noted that he served in the 1st Battalion Railway Pioneer Regiment for two years and three months during the war, and received the King's and Queen's medals and five bars. At the present time he is honorary secretary of the Railway Pioneer Regiment. Mr. Sinclair is a member of The Society of Architects, London ; a council member and honorary treasurer of the Transvaal Institute of Architects ; and also a council member of the Association of Transvaal Architects. In each of these institutions he takes a most active interest, and is an energetic and enthusiastic official.

Mr. John Francis Beardwood, a Past President of the South African Branch, practised in Dublin, in partnership with his brother, William Houghton Beardwood, to whom he had been originally articled. He visited South Africa for health reasons in 1895, and, acting on the advice of the late Cecil Rhodes, proceeded to Johannesburg, where he entered the offices of the then firm of Arthur Reid & Williams. In August of 1896, he entered into partnership with the late Mr. John Ibler, which partnership was dissolved in August, 1899, on the approaching outbreak of hostilities. Mr. Beardwood opened an office in Durban during the war period, where he designed and carried out extensive additions to the Sanatorium on Chelmsford Road, and supervised large additions to the Nazareth Home on Ridge Road. At the same time he designed and prepared the contract plans for a convent and school at " Emerald Hill," near Port Elizabeth, to cost £87,000. Returning to Johannesburg on the cessation of hostilities, he carried on an extensive practice. Amongst his most notable works are the Holy Family Convent and School, Oxford Road, Parktown ; extensive additions to the Nazareth Home at Yeoville ; St. Agnes' Mansions, Plein Street ; Catholic Club, Jeppe Street ; Notre Dame Convent and School, Kroonstad, O.F.S. ; St. Anne's Church, Belgravia ; Memorial Chapel, Lennoxton, Natal, etc. Mr. Beardwood is a member of The Society of Architects, London. On the demise of the late lamented Mr. W. Leck, he was elected to the chair of the South African branch of the same society, which position he occupied until November, 1908 ; he is also examiner in building construction for the same body. He was president of the Transvaal Institute of Architects during the years 1909-1910 and 1910-1911 ; and is a member of the Association of Transvaal Architects.

Advertisements in the Journal.

Members are reminded that they can considerably enhance the value of the *Journal* as a source of revenue to the Society, by mentioning the publication in communicating with the firms whose advertisement appears therein. By doing so the members make the *Journal* known as a useful medium between the producer and the consumer.

Meetings and other Fixtures, 1912.

Aug. 10th. Last day for submitting portfolios for the "Middleton" Scholarship.
Sept. 5th. Council Meeting. House List, etc.
,, 9th. October Examination Entries Close.
,, 29th. Last day for submitting Students' Quarterly Competition Work.
,, 30th. ,, ,, ,, ,, Scholarship Measured Drawings.
,, ,, ,, ,, ,, ,, Nominations for Officers and Council.
,, ,, ,, ,, ,, ,, Travelling Studentship Report.
Oct. 1st, 2nd, 3rd. Examinations for Membership.
,, 3rd. Council Meeting.
,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

Annual General Meeting.

The Twenty-ninth Annual General Meeting of The Society of Architects will be held at 28, Bedford Square, London, W.C., on Thursday, October 17th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Council's Annual Report.
6. Election of Officers and Council, 1912–13.

Light refreshments will be served after the meeting.

Smoking permitted.

THE

Journal

OF

The Society of Architects

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No. 59. Vol. V.] SEPTEMBER, 1912. [New Series.

The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Proposed Architects' and Surveyors' Approved Society.

The Architectural Association, in conjunction with the Royal Institute of British Architects, the Surveyors' Institution, and The Society of Architects, have had under consideration how best the interests of their members and those in their employ who come within the category of insured persons under the National Insurance Act may be promoted, and have come to the conclusion that the formation of a special "Approved Society" for Architects' and Surveyors' assistants and clerks would prove advantageous to those concerned.

Subject to sufficient numbers being obtained, it has been decided to found such an approved society, and as a membership of at least 5,000 is necessary in order to form a separate entity for insurance purposes, it is hoped that the support of the profession may be relied upon in furthering an effort which should prove of benefit to those in the professions who come within the provisions of the Act.

There is nothing to prevent persons who may have already enrolled themselves in a non-professional society from transferring their membership, and there would seem to be definite advantages to be gained by their so doing.

All persons engaged in architects' and surveyors' offices and earning less than £160 per annum are eligible for membership, and it is of the greatest importance, owing to the shortness of time, that the application forms signed by the applicants, with their addresses, should be returned to the Hon. Secretary, 18, Tufton Street, Westminster, S.W., not later than the 16th September next.

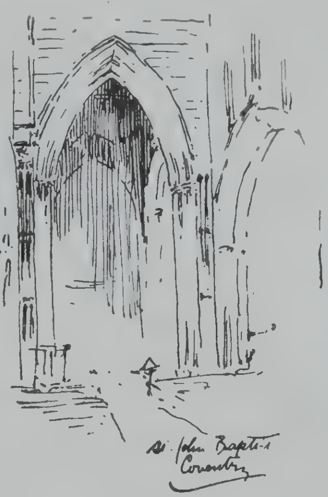
Ornament and its Application to Buildings.

PRIZE ESSAY, STUDENTS' QUARTERLY COMPETITION, JUNE, 1912.
BY THOMAS RAYSON.

The subject may be tersely defined as that attribute of building which lies beyond the pale of necessity. Nevertheless, for ornament of any nature to be fully successful it must impregnate the structure it adorns in such a way as to become an integral and inseparable part. This is as much applicable to colour as to sculptural form. The more united and complete the whole composition, the higher the standard of excellence. The form taken by any scheme of decoration as indeed by the whole conception of the edifice constructionally and otherwise, gains immeasurably by being based on the fundamental principles of precedent. A form developed in the course of centuries, handed on from generation to generation must be theoretically, and is found to be practically, infinitely superior to the impetuous creation of the mind of a single individual. Originality abused is a curse, but perpetuating and augmenting the fruits of knowledge, a gracious blessing. A consideration of the subject will therefore be greatly assisted by a reliance on precedential principles.

The function of ornament in the present day, *i.e.*, the period of English Renaissance in England, is mainly, different from that which we observe existed in Mediæval, Greek or Primitive times. We can regard it as that which lies beyond the pale of structural necessity. The Temples at Karnak were adorned with beautiful columns which were structurally necessary, as well as ornamental. The tomb at Beni-Hassan relied upon its ornamental columns for support. Remove the ornament and the structure is demolished. Similarly, and in a greater degree are the constructional and ornamental features inseparable in Greek times. The Parthenon was rich in the beauty of its columns, seen in primitive and less elegant form at Corinth. The Temple of Zeus Panhellenius at Aegina possessed tiles of real skill; that of Apollo Epicurious at Bassae in Arcadia, was non-hypæthral and required two ranges of columns internally attached to the fabric by short portions of walling at an angle with the main walls. They are Ionic in order, and of exquisite form. The tiles here also are fine, being about 3′ 6″ × 2′ 3″ and arranged to agree with the metopes. Now the effect of the splendid revival of Alexander the Great succumbed to the force of the conquering Romans. Greek masterpieces were thrown to earth, and fragments removed to Italy, protected by the Roman requirement that any lost must be replaced by similar of equal value! Since these fragments were so isolated and varied when brought together, the inventive Romans erected their buildings with their indomitable brick and Pozzuolana, and then applied these relics of a glorious past.

Thus began the principle of Roman building of engaged columns, added porticos, sham arcades, etc., which in a pure revival or Renaissance of the work of such a period, must inevitably recur. English Mediævalism is akin in principle to the Greek phase. An arcade or arch was where desirable constructionally decorated. The orders of a deep arch were more or less elaborately moulded and the advantageously spreading base and cap, similarly; for instance, St. John Baptist Church at Coventry, Fairford, and Burford Churches, all with most reasonably ornamented arcades. The consideration that the elaboration of the Reredoses, Tabernacles, Rood-Lofts, Fonts and Covers, was unnecessary is dispensible, as it does not affect the principle. The ornament constitutes the Rood-Loft, Reredos, font covers, etc., and these features would have no existence apart from that ornament, which may be and was regulated in complication by the available funds and material. The Doric tympanum was usually sculptured, in which case it formed an integral part of the same. The tympanum of the Temple at Bassae was probably not sculptured, as the face of it, contrary to the general rule, was not recessed and no sculptural remains have been discovered. This again does not vitiate the rule as to applied and unapplied ornament. To summarize therefore, appreciating that the greater the extent to which ornament and enrichment imbue the constructional forms they adorn, the more ideal the standard attained, the principles found in early Classic and Mediæval ages must be conscientiously approved and employed as the most stable means of architectural satisfaction.

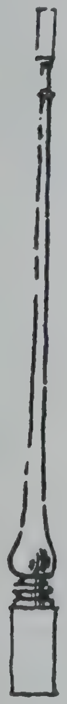


St. John Baptist Coventry

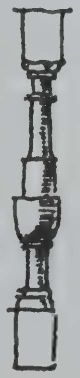
Ewelme

Basing our cogitations on precedent, we will consider the suitability of ornament in its various aspects to particular situations. It is regarded as very desirable that a building should appear to be engaged in the function for which it was intended. This desirability is due to the fact that the mind is accustomed to a peculiar facade or feature applied to a certain use; *e.g.*, a Church, Castle, College, Hall; each are impressed upon the mind by custom and experience. Just as an imaginary picture is conjectured at the mention of a purpose, so is a purpose assumed when a building is seen. Therefore, the object to which an edifice is to be devoted, dictates the position, amount, and elaboration of embellishment. Adorn churches, memorial buildings, monuments, and the like, restrain the hand of business premises, places of learning and labour, and leave severely barren prisons, castles and railway stations. Firstly, by so doing, one is supporting the expression of purpose to which the building is to be applied, and secondly, churches and monuments are closely studied by all, business premises by few other than pleasure seekers with leisure moments and prisons and castles, by none as their purpose renders their vicinity odious.

Now we are prepared to consider a great principle: one which has been and is largely responsible for success in the buildings of Mediævalism and the Grand Manner; and which is a reasonable, sound and logical deduction from the thought and practice of the finest periods of architectural development. Akin to that of concentration, this principle had better be regarded as an economical disposition of the productions of the human skill of craftsmanship so that they will appear in their full value. It is applicable to all forms of art, and indeed, broadly applied, to the very philosophy of life itself. Let us observe. We say a thing is sweet, hot, rough, heavy; inadvertantly comparing the particular quality with the average quality possessed by things with which we continually come into contact; and the extent to which this attribute exists, is directly dictated by comparison. Let us turn to the Arts. Beethoven produced music of the highest order, and besides expressing a purpose, having character, we can study how a charming little melody is taken and used in the midst of a large surface of harmony and counter-melodies, in such a way that the value of the main theme is vividly and emotionally impressed upon the mind. In the No. VI. Trio, for instance, a beautiful melody is fully appreciated by being placed most advantageously. Then in architecture, the sculpture of the Parthenon was situated in regard to the surrounding structure. Its position in the pediments, metopes, and frieze, showed it to the greatest advantage, as the severity and dignity of the columns, entablature, roof, and stylobate, contrasted in form with the lucid perfection of the sculptural story of Minerva. Again, what a setting has the screen and loft of Kenton Church, Devon! What a noble environment in the dignified arcades and aisles! How pleasant and reasonable to be able to enjoy to the full the value of the delightful craftsmanship of the screen! Imagine the church filled with some fifteenth century pews, an orthodox Reredos, Tabernacles, etc., concentrated at the East End, sight of which would be obtained through the apertures of the open screen, and the skilful disposition of the enriched portions would be very apparent. The idea can be seen exemplified externally in the facades of All Souls' College, St. John's College, and Christchurch, Oxford, all of which have features accentuated in value by their juxta-position with other characters. There are a number of examples in detail of the eighteenth century,



18th Century



Wren

Ch.Ch. Oxford.

of long refined delicately shaped wrought-iron balusters; which occur to every beholder as being very chaste.

Now let us glance at the balusters (by Wren, 1644) of the Sheldonion Theatre, Oxford. These are effective enough in their position but regarded individually, quite unpleasant. The reason we observe is in the accentuation of the studied and worked portion by the simple elongated part of the former example, and the absence of such a comparison in the latter. The principle is seen in the development of colour decoration; let us take one phase and see how it is responsible for a great deal of the merit the work may possess. The progress of stained glass in England affords a very piquant reference. The earliest work which we find at Canterbury is not only primitive in its drawing but crude in colour; but this was the initiation. The glass of Merton College Chapel, Oxford, of the fourteenth century is in the actual subject overloaded with colour. That of New College Chapel contemporary with the fabric, early fifteenth century, is in the form of complete subjects with a distinct advancement in its colour values, until we find full expression in the windows of All Souls' College Chapel, of late fifteenth century. Each window is filled with a separate subject and the blues and reds alternating in the adjoining lights are shown to their fullest extent by their setting in a white delicately patterned quarry surround. These windows are the acme of perfection. What a refined and exquisitely beautiful church would Fairford have been, had its glass been fifty years earlier! As it is—a magnificent collection, but with a lost sense of colour value. There is so much colour that in the glass itself there is insufficient white to create a criterion of judgment. Therefore, the strength and value of colour should be studied and appreciated, so that it may be placed, when used as a means of embellishment, in such a position that its presence and effect may be patent and convincing.

Colour used externally, must be obtained either by the natural tint of the material, or by some applied substance of a more or less perishable nature. Firstly, colour should be local; no expensive means should be taken to obtain a foreign or inaccessible material, however beautiful or precious, as it will inevitably appear out of character. No delicate marble could vie with the red sandstone of the Towers of Taunton, Cullompton, and Totnes in their location. Conversely, coarse and vulgar would be this same sandstone supplanting the faintly tinted marble of the Doge's Palace at Venice. Adhere to local flavour, texture and feeling and be sound fundamentally. Secondly, in the case of sculpture and fine ornament, colour probably oil, was frequently used. Mediæval men considered sculpture incomplete without colour, and the feeling was splendid which prompted them to so decorate their *exteriors*. Wells, for instance. It was an act of affection and respect, and the spirit of later

Cullompton

Wells

generations lagged, or the colour would have been carefully renewed as required. It is found that stone known to have been so treated is now in a more preserved condition. Applied colour of this nature is however unsuitable in towns for business premises, having no sentimental incentive to renewal and being an endless source of expense and constant attention. With reference to artificial colouring in the form of glazed work, it may with advantage be employed in the Della Robbia fashion as a decorative feature in which its complete absence of texture is unnoticeable, but to entirely face a building with it is to abandon all attempt at effect by texture. This we certainly cannot afford to do in our dull climate. It is suitable for the bright sunlight only.

Colour cannot be employed as a means of decoration or embellishment without being used in conjunction with form. The colour on the figures of Phidias was bounded by the shape and extent of those figures. The tints adorning mediæval screens were limited to the confines of the arrises of the mouldings, as seen in most Devon screens, Berry Pomeroy, Staverton, Ashton, for instance. In short, colour must be expressed in form. When used to cover a large enough area by which it would appear to have no outline, its value is secondary and the mind anticipates some detailed object either of form or colour on which the interest and imagination may dwell. Without this object, the colour fails as a means of decoration and we say it is monotonous, unenticing, and dull, like a picture gallery stripped of its pictures.

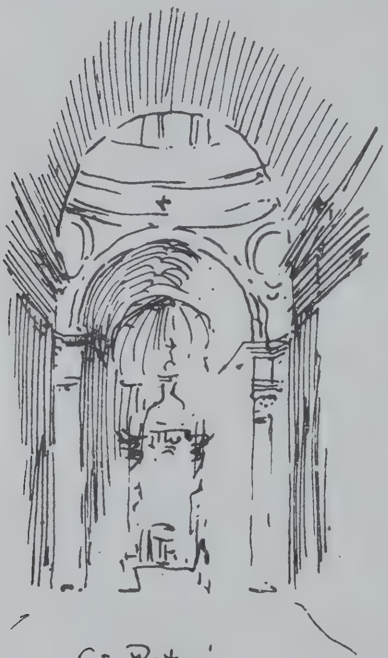
The colour scheme of a building should express or at least agree with the purpose of the structure. A corresponding expression is noticed in other forms of art. Architecturally, a fifteenth century church is distinguishable from a hall of that date. Ewelme, Oxon, for example. Compare also the music in Schubert's "Der Erl König," what majesty and dignity in youth! how solemn and ghastly at the child's death! Harmony of purpose primarily will dictate that the finest compositions and richest tones be placed in the best lighted and most prominent situations. Combining this consideration with the preceding great principle of concentration, we can understand much of what guided the hand that raised Durham.

The decorative element must always be subservient to the specific. Separate or combined, the treatment of each is quite dissimilar. To be decorative, the subjects of any representation need not be faithful, the object being to create an effect with certain definite forms.

The excavations at Pompeii have revealed halls and rooms adorned most lavishly with paintings of the figure, animals, etc., but as independent works they are simple, with no pretence to a fine finish. The general effect, however, must have been highly decorative. Again, the mosaics of St. Mark's, Venice, are the glory of all who behold them, and without assuming credit for faithful representations, are highly and gorgeously decorative. Now, a complete work as a representation of a particular subject is not originally intended as an assistance to the general effect of an edifice :

the sole effort of the artist has been to make a faithful representation, or to produce a peculiar effect just so far as the work itself is concerned. When such a work is possessed, the procedure is reversed, and the habitation must be made subservient to the centre of interest in the manner of the Shelley Memorial, University College, Oxford.

These are two main ideas; specific and decorative. It is to be observed that every member of an orchestra is "decorative," assisting in the general effect; whereas, Elgar's Concerto played by Kreisler is a nucleus to which all attending graces must gather. Reverting to precedent, we find support for these views in all ages:—Egyptian, Greek, Roman, Mediæval, and the Renaissance. In the Renaissance, however, fine, individual works of art are used decoratively. Every figure of Michel Angelo's creations in the Vatican, is a masterpiece in itself, to appreciate which one must regard the building as valuable in every particular, having a large series of concentrated works. That the full value of each detail is not evident is perfectly certain, and the scheme as a decorative one is not superlative.


St. Peters

In situations where a form of colour decoration is employed to conceal a structural defect or difficulty, it is most advantageous to adopt some geometrical device which at once arrests the attention and detracts it from the object to be concealed. The pendentives under St. Peter's Dome are of a peculiar contour which is cleverly masked by this device.

Ornament of any kind, whether in music, sculpture or painting, must be treated with a restrained hand, based on sound, well-considered evidence of precedent, and with a cultured appreciation of the strength and effect of the art employed.

Royal Sanitary Institute Congress.

Architectural Section.

The recent Congress of the Royal Sanitary Institute, held at York from July 29th to August 3rd, was attended by a large number of representatives of interested bodies, amongst whom was The Society of Architects who sent two official delegates, Mr. W. S. Braithwaite, of Leeds, and Mr. A. J. Penty, of York.

The papers read and the subjects discussed, covered as usual a very wide range, those of particular interest to architects and engineers being grouped under Section B, and dealing with the Ventilation and Warming of Churches, the Construction of Experimental Schools, and Sanitary Fittings. Summaries of these papers are here set out.

Ventilation and Warming of Churches.

MR. J. OSBORNE SMITH, F.R.I.B.A., *states that there are many churches which, from a hygienic point of view, are so unsatisfactory as to impair very seriously their efficiency as places for public worship.*

He suggests the conditions which tend to make churches unhealthy, the requirements for healthy conditions and the points to be considered in designing new buildings.

Experience abundantly proves that neglect of warming and ventilation in churches endangers health.

The cathedrals and larger churches have ample cubic space, and by judicious warming and occasional opening of doors and windows, especially after services, the interior air in such buildings can be maintained reasonably pure.

In smaller buildings containing less cubic space per person, which are usually crowded, the need for effective ventilation and ample warming becomes imperative.

The chief reasons which tend to make churches unhealthy are :—

1. Large open timbered roof spaces, clerestory windows or lofty ground-floor windows which chill the air and produce down-draughts. These may be moderated by frequent use of the building and continuous warming.

In too many churches service is conducted on Sundays only, and fires are not lighted until a few hours beforehand.

2. No provision made for fresh, warmed air to enter near, or below, the breathing line ; *e.g.*, at back of radiators.

3. No openings to allow of cross ventilation just above the breathing line as in windows of all modern, well-equipped schools, but rarely found in churches. The absence of these openings causes the air to be stagnant, disagreeable, impure, and dangerous to health.

4. Damp floors and walls, which are apt to cause chills and colds in persons sitting near them. These are chiefly to be found in ancient buildings.

5. Hot-water pipes in channels sunk in the floor and covered by gratings. These channels, being usually in gangways, are receptacles for dust and dirt, and when the floor is washed, dampness is added to the heated dust in the channel and upon the pipes. Thus conditions antagonistic to health are set up, to say nothing of the added danger when consumptives occupy end seats near the channels.

6. Pits below the floor containing many gas jets for warming purposes.

7. Hot-air ducts, which are never, or hardly ever, cleaned out.

8. Boarded floors with open joints. It is not always borne in mind that there may be a mile or two of joints filled with dust in a church where boarded floors are used. Sometimes near each row of seats there are two or more holes in the flooring, about one-inch in diameter, for ventilating the space under, which in course of time becomes a large dustbin only four or five feet below the breathing line.

These insanitary and unhealthy conditions prevail to-day, more or less, in most modern churches and other places of worship. Some of the older churches have worse health conditions even than those just described.

We all know churches where less than a moiety of window space can be opened, sometimes very much less. I recall one where the *only* portion of any window which opens is not much larger than the palm of one's hand.

Yet the cult of the open window is no new thing. Nearly five centuries ago, in his books upon Architecture, the renowned Leon Battista Alberti (1404-1472)—described by Evelyn as "the most knowing in the Art of Building"—again and again emphasizes the value of pure air, sunny aspect and the open window.

The requirements necessary to make the interior of churches healthy for use and occupation may be briefly stated thus :—

1. Ample means of cross ventilation from openings in opposite sides of the building below or near the breathing line, in order to get rid of foul air at the very spot where it is generated. Cross ventilation is also desirable high up near the flat ceilings, or in the sloping roof spaces, the openings being arranged to check or divert downward currents.

2. The inlets for fresh air to be as short as possible, capable of being readily cleaned, well distributed, and allowing at least one foot super of clear opening to about ten people.

3. Adequate means for warming incoming air, so that it may be not only warm but also pure and fresh as possible at the breathing line during services. High temperatures should be avoided, and provision should be made for supplying additional vapour to the internal air when required.

4. Warmth just below open roofs, clerestories and tall windows to prevent down-draughts.

5. Jointless solid floors, which can be readily kept clean.

6. Seats and fittings which do not obstruct the passage of light and air, or hinder the cleaning of floors.

7. Means for preventing the deposit and movement of dust.

In cold weather, warmth, genial, all-pervading warmth is desirable inside churches during occupation; the cold, bracing, breezy air which is so enjoyable when one is moving about is not welcome inside where persons are sitting. Provision, therefore, must be made for:

1. Warming *incoming air during the services* as well as the *inside air* before occupation;

2. Preventing the inrush of cold wind currents from windows by fixing hopper lights to direct currents upwards, and from entrances by double doors opening outwards and closed by checksprings, and by placing radiators or stoves near the entrances;

3. Preventing down-draughts by fixing hot-water pipes in roof spaces and below clerestory and other windows;

4. Generous warming apparatus, well distributed, without excessive temperatures either in pipes or warm air flues.

METHODS OF WARMING.

1. Large close stoves near inlets for fresh air are very useful.

2. Underground stoves: the heat ascending through grating at floor level are effective, but the air is often too dry and polluted by dust.

3. Warm air apparatus, by which cold air is admitted either from the church or from outside to a furnace room or battery of large pipes, and discharged into the church through vertical or horizontal gratings.

4. Low-pressure hot-water apparatus with radiators having fresh air inlets. This is effective and generally satisfactory when inlets are accessible for cleaning, and radiators are in suitable positions.

5. Low-pressure hot-water apparatus with pipes in channel. For reasons previously stated this is an insanitary method. It is also ineffective, as the heat given off is generally reduced by the non-conducting matter accumulating on the pipes.

6. Medium-pressure apparatus with small bore pipes next outer walls or in channels, in coils, or round skirting of raised wood floor on which are the seats. A useful and economical method for distributing warmth *when pipes are kept above the floors.*

By all these methods fresh air *can* be admitted to be warmed before entering the building, but in many cases this has not been done.

Hot-water radiators to which fresh air can be admitted by short, smooth, cleanable ducts above the floor, are cleanly and cheap ; effective boilers are also reasonable in price. There is now, therefore, no good reason for placing pipes in underground cellars or channels, or for allowing the bracing air to be contaminated by passing through long dusty flues.

Hot-water pipes or radiators can readily be fixed above the floor and under upper windows and roofs.

In churches with boarded floors, sunk trenches, fixed benches, and roofs having exposed timbers, there are places where dust is deposited and rarely, if ever, removed.

The accumulated débris from the boots and garments of generations of highly respectable, but not always healthy, persons is left behind ; part is periodically disturbed by sweeping, dusting, and warming, ready to be inhaled by the incoming congregation ; the rest, out of reach under floors and on lofty projections, gradually accumulates and constitutes a potential nuisance.

The dust nuisance can be palliated by (1) liberal use of mats at entrances, (2) jointless floors, (3) polished floors, (4) smooth wall surfaces, (5) avoiding unnecessary projections.

The commercial " Dust Allayers," are useful in numerous buildings, but unsuitable for churches by reason of difficulty of application under benches, and liability to injure ladies' dresses which touch the floor.

Windows are often kept closed to keep out dust from the street or roadway ; there can be no objection to this provided they are opened during occupation.

When designing new churches, provision for ventilating and warming need not add seriously to the cost, and its importance is such that it should not on any account be included in those interesting items left to be done later when money is available.

Much may be done to make church interiors healthy by giving attention to a few negatives :—

Don't have air brought in at floor level from beneath gratings.

Don't put hot-water pipes in channels under gratings in the floors.

Don't cover doorways with curtains.

Don't close all windows or ventilators at the same time ; if a south-west gale prevails, those on the north side might be open without discomfort, and *vice versa.*

Don't try to save fuel by closing all the inlets and outlets for air when the church is occupied ; it is false economy. They may be closed when the building is empty.

Don't fail to warm sufficiently a large proportion of the incoming air in cold weather.

Don't suffer down-draughts to exist ; they are most dangerous to health, and can be prevented by judicious warming.

Don't fail to warm the triangular spaces in roofs which are open up to the ridge.

Don't have many supports beneath the seats, so that floors can be readily kept clean.

Don't fail to concentrate warming near entrances.

Don't encourage the use of blinds, curtains, matting, wicker seats, or anything which harbours dust.

In too many cases the members of the congregation are ignorant of the risks to health incurred by meeting under such conditions, and they either refuse to subscribe, or contribute unwillingly, the funds required to give them healthier buildings.

Experimental Schools.

MR. G. TOPHAM FORREST, *Education Architect, Northumberland County Council, refers to the knowledge required by architects where special circumstances arise for dealing with the structure, either with regard to its stability, or from the point of view of expense, and deals with* (a) *The erection of structures where some method has to be employed to counteract as far as possible the effect of pitfalls or subsidence due to colliery workings, and* (b) *the cheaper schools movement.*

In many cases in colliery districts it is not possible, owing to expense and other reasons, to acquire support for the surface of the site, and therefore special precautions are necessary when designing the buildings.

The new school at Choppington, Northumberland, is a very interesting example under this class.

The street or road adjacent to the school site formed what is known as a " barrier " between two collieries of different ownership, so that the school is placed in as treacherous a position as possibly could be chosen.

It is customary for architects to lay a large raft of reinforced concrete over the whole building area, but in the case of this school such a treatment would not have materially assisted in minimising the risk of subsidence. Some other means therefore had to be adopted, more economical and efficient. From observations and experimental tests carried out, Mr. Forrest came to the conclusion that some system of reinforced brickwork would meet the case, as this mode of construction would render the walls monolithic and make the building infinitely stronger than if built with ordinary walls. Briefly, the system is to reinforce the mortar course with a wire mesh of best quality mild steel wire, galvanized, and having tensional wires running its entire length. The action of the wire mesh when resisting tensional stresses, is to reduce the sectional area, and this tends to close the meshes and compress the mortar, so that the latter develops its greatest strength, *i.e.*, resistance to compression. The resistance arrests the tensional stresses in the wire, and is arrested by being held firmly by the bricks above and below it. With the mesh embedded in the mortar joint, the latter becomes the strength of the wall and not a filling only, and the continuous bond renders the wall monolithic.

Reinforced brick walls, by reason of their resistance to tensional and lateral stresses, do not require to be of the same thickness as ordinary brick walls, whose strength is only in proportion to their weight. Heavy brick walls are only as strong as their foundations for weight-carrying purposes, and should the foundations settle unevenly, cracks will appear throughout the building, but by reinforcing the walls with this mesh 10 or 15 feet can be taken away from underneath the building, and the walls will still remain intact and span across like a girder.

He applied this form of construction to the Choppington school, and when the plans were in the first place submitted to the Board of Education they would not sanction them but eventually did so, and a loan was granted to the Education Committee extending over a period of 30 years. There are two departments, infants and mixed, each being a separate building. The former is built to accommodate 168 children and the latter 400. It is with regard to the mixed department that the experiment has been tried. The school is built in three sections independent of each other, with the foundations and walls reinforced, the former on the Hennebique system and the latter with wire mesh of best quality mild steel wire, galvanized, and having tensional wires running its entire length. The school is built with a 9 in. cavity wall in place of the ordinary 14 in., and consists of a 4½ in. outer wall, 1½ in. cavity, and 3 in. brick on edge inside. For the classroom walls a 9 in. cavity wall was used consisting of two brick on edge walls with a 3 in. cavity between, and the partition walls are 3 in. brick on edge reinforced. The cost of the school worked out at £11 16*s.* a school place, which is practically the cost of the better-class schools in Northumberland, and taking into account the fact that building is about 30 per cent. dearer there than it is in the West Riding, this school is remarkably cheap, considering the methods taken to strengthen it. The walls are built in cement mortar gauged 2 to 1, and every precaution has been taken to insure the safety of the children. Fire hydrants with long lengths of hose are fitted up inside the building, one in the infants' school and one in the mixed department ; and emergency exits are provided, each fitted with panic bolts exactly similar to a theatre.

The other two experimental buildings referred to, come under the head of the cheaper schools movement, and are both interesting examples.

The first is the new school at Barrington colliery, about sixteen miles from Newcastle-on-Tyne. This school is constructed of wood on brick foundations. The brick foundations are reinforced in two alternate courses with three rows of best galvanized mild steel wire mesh, similar to that used in the Choppington school. This mesh is in 2½ inches widths laid longitudinally along the total lengths of brickwork. The wood superstructure is securely fastened down by wrot iron bolts and plates embedded in the foundations. The outside framing is formed with 4 in. by 3 in. posts, covered with a layer of felt and 1 in. G and T boarding, fixed horizontally on the outside, and on the inside match-boarding covered with asbestos sheeting to form a dado. Above this dado the asbestos sheeting is fixed on to the 4 in. by 3 in. posts. The corner posts to the building are 4 in. by 4 in. The floors throughout are of wood joists and boarding supported on sleeper walls. The ceilings are formed with asbestos sheets, and the roofs are covered with Eternit slates laid on spars covered in the first instance with felt. This school works out at £6 10*s*., a school place.

For colliery districts where the life of the colliery is uncertain, Mr. Forrest strongly recommends a school of this description. It is considerably cheaper than a brick or stone building, and with the exception of the main walls and floors, is finished exactly similar to one. A low-pressure water apparatus is installed. Ample heating margin has been allowed, so that the children will not feel cold in winter. All other materials, hardware and sanitary goods are of the best description.

The other experimental building is the new school erected in the village of Hartley, on the East Coast of Northumberland, about ten miles from Newcastle-on-Tyne.

The population consisting chiefly of miners employed at collieries outside the parish, an application was made to the Board of Education for permission to erect a wood and iron building. The Board, however, were only prepared to recognize a wood and iron building for a limited period, pending the erection of a permanent building, and suggested that a more comfortable and satisfactory building than that proposed should be erected, which would at the same time be less expensive than a stone or brick building. Finally, designs on similar lines to the sanatorium at Harrow received the approval of the Board of Education.

The school is a timber framed building with slab casing, ferro-concrete foundations, reinforced with ¾ in. steel rods and expanded metal ; 4½ in. by 3 in. framing fixed to foundation, with holding down bolts at angles and about 8 feet apart around the building, angle posts of 7 in. by 4 in. framed to horizontal timbers fixed to all external angles, doorways, etc., ordinary framing 4½ in. by 3 in. with 4½ in. by 2 in. alternate studdings ; 9 in. by 3 in. glazed ware air gratings fixed at base of all framing, and holes bored through timbers for circulation of air throughout the whole of the framing. Bituminous damp course is fixed below sole piece of framing. 2 in. "Fram" slabs fixed to framing on outside, rendered over surface with cement mortar floated to an even surface, and rough cast with mixture of slag and pea gravel. 1 in. internal "Fram" slabs nailed to framing, floated and skimmed with washed hair lime and putty, and finished with putty and plaster throughout. A 3 ft. 6 in. dado is formed with Portland cement back and finished with Keene's cement, face trowelled and smooth. The roofs are boarded with clean redwood grooved and tongued boarding, and slated with asbestos tiles laid diagonally and fixed with copper rivets.

The cost of the school works out at about $5\frac{1}{2}d.$ per foot cube for the building alone, but the fact must be taken into consideration that the building internally is finished exactly similar to one of brick or stone, and that owing to the exigencies of this site, and bad drainage arrangements, it was found necessary to instal an accelerated hot-water installation, and other extras were also incurred. Provided a school of this description was built on a suitable site, it should be possible to erect a building which would work out at 5*d.* per foot cube, or even under that figure.

The school is designed to accommodate 300 scholars, and the price per head works out at £6 16*s.* 6*d.*, but to this price must be added £525, being the cost of out-offices and boundary walling, which are of brick and stone, similar to a permanent building, and also the tar macadam playgrounds and drainage.

Mr. Forrest does not advocate the cheaper schools movement, nor does he agree with many of the principles laid down in the report of the Departmental Committee ; but he feels that the demand for schools similar to those erected by the Northumberland Education Committee at Barrington and Hartley exists in mining and other industrial centres, and that there are a good many cases where it seems highly desirable that local education authorities should make careful inquiries as to the methods best adapted to meet the needs of their own districts.

The Selection, Arrangement, and Fixing of Sanitary Fittings.

The General Council for the National Registration of Plumbers point out that when selecting sanitary fittings it is important that the principles of their construction and the object for which their various features are designed should be thoroughly understood. There are some excellent sanitary fittings which are often brought into disrepute because they have either not been placed in positions for which they are intended, or they have been arranged in such a way as to defeat the object of the inventor and the architect who specified them.

Sanitary fittings should be so constructed that any part that is likely to get fouled and become a nuisance should be easily accessible for cleaning, no sanitary fittings being absolutely self-cleansing, whatever flushing arrangements are applied to them.

There are principally three types of water closet apparatus which may be relied upon as satisfactory under varying conditions. These are the improved valve closet, the syphonic and the washdown pedestal. The valve closet is still held by those who are competent to judge as one of the w.c.'s that can safely be used where the best class of fittings are required. It is important, however, that the basin should have a slope top, and the side and back rails and capping in front of the seat, bedded on the edge of the slop top, water tight. If the walls and floor are made air tight, and only the panel in front of the enclosure made to open, the objections to the enclosed seat which exists in connection with the old style of fittings is entirely overcome.

A still further improvement are those valve apparatus with white porcelain enclosures, the whole being, with the exception of the lifting seat, non-absorbent. Other important features of the valve closet are an accessible overflow which can be easily cleaned, and the valve box should be porcelain enamelled and ventilated by a pipe taken through the external wall. It is essential that a valve closet should have an ample water supply, but it does not follow that it is necessary to use more than the usual quantity. The best arrangement is a 1¼ in. supply valve under the seat with a 1¼ in. service pipe connected to a small intermediate cistern about ten or twelve feet above the apparatus. When fitted up in this way the flush is ample, comparatively quiet, and effective. The attempt to flush a valve closet by a two gallon syphon action cistern always give unsatisfactory results. Where the water supply is regulated by a water authority, the best plan is to use a waste-preventing supply valve, many of which are fitted with a flush and after-flush arrangement which answers the purpose very well.

One of the most valuable features of the valve water-closet is the large body and area of water in the basin, consequently when the pedestal form of washdown water-closet was introduced it was found that under ordinary conditions the amount and area of water in the basin was extremely small, resulting generally in a large amount of fouled surface which cannot be cleaned by ordinary flushing. With the object therefore of retaining the washdown and pedestal form, and providing a large water area, the syphonic action is adapted in order to discharge the contents of the basin by means of a reasonable amount of water.

There are several kinds of syphon action water-closets, but they depend principally on three methods for setting up the syphonic action. One is that in addition to water flush into the basin, a part of the water is directed into the outlet shaft which forms the long leg of the syphon. This jet of water drives out the air, and also produces an exhaustive action which causes the contents of the basin to be discharged by syphonic force. This kind of water-closet is usually fitted with a second trap of a self-cleansing kind fixed at the bottom of the outlet shaft where it joins the branch soil pipe. To this shaft are attached two small ventilating pipes, one at the bottom and one at the top of the shaft, and these should be taken through the external wall.

Another class of syphonic w.c. depends for its syphonic action upon a somewhat different principle, and in this case a second trap is necessary. The reason is that the syphonic action is set up almost completely by an exhaustive action, which is produced by means of a small exhaust chamber inserted in the flushing pipe. A small air tube connects the exhaust with the top of the outlet shaft of the basin, so that when the flushing water is discharged from the syphon cistern, or other apparatus, a part of the air is extracted from the shaft between the upper and lower traps and so produces a partial vacuum and thus induces a quiet but effectual syphonic action.

One advantage of this method is that the whole of the flushing water passes through the basin, and is therefore utilized for flushing.

It may be mentioned that in some of these w.c.'s the air which is drawn from the shaft is, or should be, conveyed through the external wall by an air pipe. The third description of syphonic w.c. is arranged without a second trap, and the syphonic action is set up by a jet of water directed vertically over the outlet trap of the basin, and this, with the assistance of a part of the water which passes through the flushing rim, produces a kind of vortex, and so forces the water down and through the outlet shaft in sufficient volume to fill the shaft, which, acting as the long leg, syphons out the contents of the basin.

Nearly all the above-mentioned appliances are either fitted with a lead trap or outlet, so that the connection to a lead soil pipe can be securely made by means of a wiped soldered joint, or, if it should be an iron soil pipe, the lead outlet can be soldered to a brass ferrule, and this caulked with metallic lead into the iron socket. With regard to the flushing apparatus, the syphonic w.c.'s can be fitted either with syphon action flushing cisterns, or with regulating supply valves, with or without the waste-preventing attachment. For a neat appearance and quiet working the supply valve has much in its favour. But where flushing cisterns are preferred, a great improvement on the ordinary cast-iron cistern is effected by using deal panelled or mahogany lead or copper-lined cisterns, which can be made to any design that may be desired.

The washdown type of water-closet, whether in the form of a pedestal or of the "corbel" or "bracket" kind, maye be regarded as the simplest class of water-closet, and when constructed correctly and fitted with efficient flushing apparatus they are the most up-to-date water-closets for general purposes; but as they are produced so cheaply many are very defective. A good washdown water-closet should have a well-made flushing rim, and the back of the basin should be nearly vertical. The trap should have not less than 1½ in. dip, and should be of such a form as to prevent the loss of the water seal by momentum.

It is in this connection that the advantages of the valve and the syphonic water-closets are realized. When water-closets are fixed on chamber floors, in bathrooms, and near bedrooms, it is of the first importance that they should be above suspicion in every respect. It is somewhat alarming, therefore, to find, on testing the sanitary arrangements of a house, the smoke passing freely through the trap of a pedestal water-closet. In this case, however, it was not the result of either momentum or syphonage, but evaporations. The house was kept at a fairly high temperature, and as the water-closet had not been used for some weeks, the water had evaporated half-an-inch below the dip of the trap. With the modern valve water-closet and the syphonic with a second trap, such a case as that mentioned is practically impossible, because the trap below the valve water-closet would resist evaporation for almost any length of time, and there is the additional security of the basin valve and body of water. The same may be said of the syphonic, and the value of the large body of water in the basin in both cases, for preventing in a large degree the local smell, is undoubted.

Reverting again to the pedestal water-closet, one of the most important matters to consider is the connection between the outlet of the trap and the soil pipe. A hard metal socket with a wiped soldered joint to the lead pipe is essential, and most people have found that a Portland cement joint, well made, is all that can be desired. There are, however, some who still favour the red lead and hemp cement for this purpose, but the main point is the hard metal socket, and so long as the cement is of a substantial character, the joint can be depended on. Where pedestal water-closets are fitted with lead traps there is no difficulty about the wiped soldered joint.

As the Corbel water-closet has been mentioned it may be well to point out that, although in principle it is a washdown water-closet, it has the further advantage of being supported either as a corbel in the back wall, or on brackets, the entire floor space beneath is therefore clear. This greatly adds to the cleanliness of the apartment, and avoids the very objectionable feature of many pedestal water-closets of the absorption of urine under the base of the pedestal.

As to ventilation it will be enough to say that the branches to all water-closets that are likely to be affected by syphonage must be ventilated in addition to the full size ventilation of the main stack. Every part of a bath or lavatory fitting that is likely to be fouled by use should be easily accessible for cleaning. Every fitting should be provided with a ventilated and self-cleansing form of trap, and the end of the waste pipe should be connected to the side inlet of a self-cleansing form of gulley trap. In no case should it deliver over the top of the grating or channel as this plan causes an accumulation of filth on the grating, and in the case of the channel increases the fouled area beside destroying the flushing power of the waste water in the gulley trap. As an example, the quick discharging waste valve of a bath, in connection with a 2 in. waste pipe, joined to a side inlet of the hopper of gulley trap, acts in the same manner as a flushing tank, and automatically keeps it free from accumulated filth.

American Schools of Architecture.

Mr. J. F. Hennesey lecturing on "A Few Impressions of Modern America" before the Institute of Architects of New South Wales, gave a brief outline of his impressions of the great American Schools of Architecture, dealing especially with the greatest one of them all, the University of Pennsylvania. Pennsylvania has now the largest body of students in America, and outside of Paris the largest number in the world assembled for the study of architecture, and it is a well-known fact that the training in architecture is the best now to be obtained in the world. Beginning its work with a few students and scanty equipment, the school has grown without aid of endowment, maintaining a high and constantly advancing standard of instruction, and justifying its existence by the wonderful work it turns out. Her professional training stands at the highest level of efficiency; her remarkable vigor of growth continues unabated, and in the twentieth year of her age she stands as one of the greatest seats of learning in the world, and one of the many institutions that this youngest nation may be justly proud.

Architecture and the Architect.

The firm belief of all the professors is that, firstly and essentially, architecture is a fine art, so it must always have that great quality called beauty. They look upon an architect as a professional man of culture, learning and refinement, differentiated from others of his class solely by his function as a creator of pure beauty, as an exponent through material forms of the best secular, intellectual and religious civilization of his time, and as an organizer and director of manifold and varied industries and activities. The people who believe the old saying that a designer, a poet, an artist, a sculptor, or an architect is born to it, not made, will not receive much support in this great school. The professors will tell you that those who do not know, use this saying for every calling in life. The people who believe this saying will tell you that the artist one day felt a sudden inclination to sit down in front of an easel or drawing-table, and after having pressed his brow a few times, gave to the world a new master-piece, but the truth usually is very different; it is less theatrical, but much more beautiful, for it implies a constant effort from the beginning to the end of a man's life. The most gifted have had to work as much, and in fact, more than others to develop their talent. The main difference between a good and poor designer is that the one has the possibilities and the willingness to study a problem a longer time than the other; it is the importance of study that is the foundation of design, just the same as experiments are the foundation of science. Good architecture must always have the three great tributes of convenience, stability and beauty, serving a definite purpose, an enduring form, with a character only art can give. There can be no architecture (says Ruskin) without construction, and no good architecture without good construction, nor does a well-constructed building mean good architecture unless it meets properly the practical uses which call it into existence. But even so, it does not become a work of architecture unless with these merits it has incorporated that of beauty, that quality felt by the observer, which lies in its character, and grows out of its harmonies of form and colour.

The range of architects' work to-day is from pure art to pure science. It requires on one hand an understanding of engineering, structural, sanitary, electrical and mechanical, and on the other of sculpture and painting. His duties bring him into direct and responsible contact with business questions, and with problems of design based purely upon sentiment. He is expected to be an expert as an artist in design, as an engineer in construction, as an administrator in the practical execution and legal protection of his client's affairs. He must know how to design, not only buildings, but bridges, not only gardens, but cities. He must solve problems from church to factory, from great monuments to caisson foundations.

The destiny of the Student.

Knowing all this, how do they teach ? In the first place the destiny of the student is never lost sight of. They must lay a broad and firm foundation for the superstructure of the student's later career. He must be developed as an individual, for strength and resources of his personality will be the measure of his success as an architect. Therefore, they treat the student, not as a part of a mass, but as an unit, and this is the fundamental principle of the course.

It not only allows personal contact between student and instructor at every point where such relations are helpful, but compels it in those studies whose purpose is to arouse and develop the creative faculty.

The individuality of the student is preserved and developed under the discipline of an instruction which carefully avoid moulding him over into the pattern of the master. The course in architecture is four years, with one extra year for graduate work.

The four years' course in architecture leads to the degree of Bachelor of Science in Architecture. Students desiring to specialize in the field of Construction and Architectural Engineering are given the option at the end of their third year of devoting the major portion of their time in these subjects. It no doubt, would be interesting to give you a rough outline of the subjects taught in this course.

Architectural drawing from the use of the instruments up ; Freehand drawing ; the Elements of Architecture, shades and shadows ; Descriptive Geometry, perspective, mechanics of materials, graphic statistics, building construction, sanitary engineering, architectural engineering, pen and ink rendering, water colour, history of architecture, history of painting, history of sculpture, historic ornament, composition, design, chemistry, hygienic, English, Mathematics and French or German.

These subjects are divided during the three years as follows :—Design beginning early in the first year extending through the course, and receiving a larger share of attention than any other group. Construction, theory and methods of practice in the second and third years, with a fourth year option in Architectural Engineering. Drawing, architectural and pure, in freehand, water colour, pen and ink, extending through the entire course, History of Architecture, painting and sculpture, second, third, and fourth years. Practice, ethics, and other topics, fourth year.

Registration necessary to progress.

This young nation has realized absolutely that four big things are necessary for its welfare and progress ; the first is modern and up-to-date building acts ; second, registration of architects ; third, public competition for all State and Government buildings ; and the fourth, architecture can only be taught through the medium of good architectural schools, and expert men at the head, and men who know how to teach, and how to bring out what lies dormant in every student. These are the four things absolutely necessary in our young country, and without them our land will never be able to receive the best from our best. The time has come to put aside all little differences and squabbles, and fight side by side for the welfare of our young Commonwealth, because the architecture of this country, as in every other country, will tell our story a thousand times more than any written work, and it is time that we should have a say in what our architecture is to be.

One of the first things taught by the American professors is that success in anything means hard work and lots of it. There are no seats on the road, but the higher you go the less crowded it is. Stick at it ; there is a chance for everyone. In the first year they see what a student knows ; they get at the back of his mind, and when they have found what he is capable of, they lead him to it. A student develops his own ideas, and puts them into shape with the guidance of the master. The student is given to understand that he is working for his own success, and very quickly he realizes it.

The superiority in design is mostly to know how to study ; that is to say, to give form to an idea, to make it constructible, and to improve it by good proportions. The pupil is first asked to prepare a rough solution of the programme without any assistance. The part of the professor is then to retain from this first scheme everything that can be used. He will avoid substituting what he thinks himself a better solution for that of the student trying only to point out the defects of the student's scheme, and to suggest the best way to correct it. This prepares the student for his future practice. All designs are carried out on the competition scheme, and for the higher and better grades of designs prizes are often given.

The whole scheme of hours for getting in the necessary amount of work is wonderfully drawn up, starting in your first week with only a little they gradually each day add a little more until every hour of the day is filled up, and it is most remarkable the enormous amount of work that one can get through when his time is properly regulated.

ATHLETICS A PART OF THE COURSE.

It might be interesting to you to know that exercise and gymnasium are compulsory subjects, and that one cannot sit for any of his architectural subjects if he is deficient in gymnasium. There is a regular course in it, just as in any other subject. A man must also be able to swim before he leaves. Sport is very prominent in the University life, and all the professors encourage the students to try for all the teams, but no student can belong to any team or represent the University in any sport whatever, no matter how good he may be, if he is deficient in any of his professional subjects; so you can see that in America one does not go to a University solely to learn to be a sport.

No loafers are allowed in the Architectural School, and you certainly feel that as you enter it. If a fellow fails in more than two subjects at the end of the first term, he is dismissed from the University altogether. The professors encourage the fellows in every way. If your funds are a bit low, they will give or obtain employment for your spare time, and will make such employment, if possible, deal with your own work, and then pay you well for it. The professors come to your rooms; they smoke with you; they go to your clubs and socials, theatre parties, and are really one of the boys themselves. There is no pedestal business about them, and this is the reason of their great success. They know the boys; they are one of them, and they understand them, and who could be a better teacher than one who knows thoroughly those he has to teach?

THE SOCIAL SIDE.

A big thing in the year is the architectural entertainment. All the songs, music and work are written by students in the Architectural Department. The scenery painted by them, and the whole thing is carried out by them. Mr. Greenwell, who took part in some, can tell you about it, and what a wonderfully clever thing it always is. The last two were looked upon as two of the cleverest amateur entertainments ever given in Philadelphia.

They have honour societies belonging to the schol for membership, of which all the students strive. These societies only take in men who are hard and good workers, and it is the ambition of all to be members of the Architectural Society, but each year the number is very limited, and averages only about 35 out of nearly 300 students.

The whole atmosphere of the University and the University life encourages one to work, and the University spirit to be found in America is certainly a wonderful thing. It holds the fellows together in one united mass.

THE "QUIZ" SYSTEM OF EXAMINATION.

It is very seldom that the American Universities follow out the English method of holding examinations at the end of the year, or even at the end of a term. They have what is known there as the Quiz system, that is holding exams. in many of the subjects every two weeks or so. By this means they find out what points in their lectures the students have missed, and if any, they lecture on them again. They have also found out that by this method they keep the students continually on their subjects, and it prevents cramming, a thing that is strongly opposed by all American professors. The student soon realizes that he is working for his own benefit, and it is remarkable to see the high average mark obtained. No student can pass a Quiz exam. with a mark lower than 65.

A final exam. is also always held at the end of the year to give another chance to those students who have not obtained a high enough average in the quizzes, and to be exempt from this final, it required an average of at least 80 ; so you can see how thorough they require a student to be, and when one considers the way the subjects are taught, and the impetus and help given to learn, and the great library at the beck of the students, this mark is not as hard as it looks, and when one has gone through the course for himself, even though it did take very hard work and very long hours, the result is certainly worth the effort.

The L.C.C. and Ancient Buildings.

A communication has been received by the Society from the London County Council pointing out that the Ancient Monuments Protection Acts provide for the guardianship of monuments of historic, traditional or artistic interest, not only by the Commissioners of H.M. Works, etc., but also by County Councils, and that several Bills have been introduced during the present session of Parliament, and are being dealt with, which have for their object the amendment or extension of these Acts.

The L.C.C. is considering what action it will take in the matter, and, as a preliminary is preparing a list of the buildings, etc., in London which are held to be worthy of permanent and adequate protection. A very large amount of material is available, but of course in so extensive a subject it is desirable, if the list is to be in any way a complete one that the Council should have the assistance of the chief Societies or Associations which deal with such matters, and they invite the co-operation of the Society, and will be very glad to consider any suggestions which the Society may make as to particular buildings, etc.

We shall be glad to receive any suggestions form Members or information as to existing buildings of the kind referred to.

Some defects in the "Loge" System of the Ecole des Beaux Arts.

For some time past the system of the Ecole des Beaux Arts instruction has been in vogue in America, under the auspices of the Society of Beaux Arts Architects, and in a discussion arising out of the Report of the Committee of Education presented at the last Convention of the American Institute of Architects the system was in some respects severely criticized.

As the adoption of a similar system is under consideration by some of the Architectural Schools and other interested bodies in England, it will be useful to place on record some of the opinions expressed by leading American architects as set out in the following summary of a report in *The Architects' and Builders' Journal*:—

Mr. Marshall, a member attending at the Convention, explained that he first had an idea that something was wrong by reason of the very low average of ability shown in connection with an examination instituted by the Art Commission of New York. He believed that boys were led to think they were getting an education when they were not. He was shown a sketch plan and elevation, which had been in course of preparation for months by a competitor in one of the ateliers of the Beaux Arts Society, and a more inferior design in every respect he confessed never to have seen. His chief objection to the Beaux Arts system was that they were too liable to assume that the methods which were good for men who knew something were good for those who knew nothing. Boys were allowed to come into the ateliers and to undertake work after the method which was claimed to be good for men who were well and thoroughly educated. Mr. Marshall believes thoroughly in the work that is being done by the Beaux Arts Society, but he is doubtful as to the value of the method of giving a man a few months, so to speak, *en loge*, and then a long time to work up that project he then decides upon. He was convinced that no great work of art was ever produced as the result of making a sharp decision and then working for a great many years or months in perfecting it, but rather as a result of long thought with very rapid work at the end. The *en loge* system seemed to him to be very bad for true art. It makes a smart draughtsman; it makes a successful business man; but does it give to a man the habit of mind which is going to make him a great artist?

Mr. James Otis Post (Chairman of the Committee on Education of the Society of Beaux Arts Architects) in reply stated, that if the student studying the Beaux Arts problems in his office had handed in his inferior plans and elevation he would have failed to receive a "mention," which would have shown him he was not as good an architect as he thought, and after several experiences of that sort he would have realized that it was time for him to study design, and not merely clever draughtsmanship. After studying architectural compositions in plan and elevation, he might then in nine hours indicate a sketch, the essential of which would be capable of good development during six weeks' study in the preparation of his final drawing.

The aim of the educational work of the society was to encourage the study of architecture and to produce good designers. They did not propose to establish a complete course of architecture, nor did they consider their students holding certificates qualified to practise architecture without other qualifications. They merely gave annually a series of competitive exercises in design. In many instances, these students enter schools of architecture as a result of the stimulus derived from entering these competitions. The S.B.A.A. competitions are divided into three grades: First, the Elementary or Order Problems of Class "B"; second, the simple Plan Problems and supplementary nine-hour Sketch Problems of Class "B"; and, third, the problems in Advance Design and supplementary Sketch Problems of Class "A." The students with few exceptions are required to pass through the three grades, and it is a matter of three or four years' study and hard work to qualify for the certificate.

Mr. Lubschez referring to the point first made that some methods are good for those who know something and not good for others who don't know, said the *en loge* system of the Beaux Arts Society was for those having some fundamental knowledge, to draw on for making *en loge* sketches. He thought it a great injustice and harm to others to be asked to make a sketch without having the privilege of consulting actual examples, or similar examples, as every architect has when he makes his preliminary studies for a commission. If the programme were issued to students with the privilege of research, they would gain by that further study which they would have been induced to make. They should be given a chance for research before they make that preliminary study; that is, those students that know nothing—those students Mr. Marshall spoke about. For the beginners in Class "B" in the Beaux Arts Society work the methods were entirely wrong, it was analogous to requiring a man to write a letter when he has available about five letters of the alphabet and knows no more.

Mr. Post explained that all they were trying to do was to introduce in America the method of instruction of the Ecole des Beaux Arts. If a man doesn't know orders of architecture and cannot execute the order problem, he isn't qualified to enter Class "B." Their idea was to instruct men in offices who can draw and are familiar with orders of architecture, but do not know how to assemble them in the art of design.

Mr. Van Pelt, said that the reason why sketches were originally introduced in America, was from the way that work was done in Paris, and the reason they continued it so much in America was because in the schools it was very difficult to ensure the fact that the student was going to work out his own ideas in a problem, and not the ideas of the friend at his elbow or the man who was giving instruction. Secondly, if a man did not crystallize his idea, and was given a reasonable time to do that, he took two or three weeks or months, all the time he was allowed to study the problem, the result was he never perfected anything.

Professor Mann pointed out that one of the great virtues of the system was that it stimulated enthusiasm and led men to do work that was of inestimable value to them, and that otherwise would not have been done. The danger of the work had been that students entered it with the idea that it was a system of education, and they went on contentedly with the thought that they were being educated as architects, and woke up, perhaps all too late, possibly when they were trying examinations and found deficiencies in their education. The Beaux Arts Society might, instead of requiring merely a certain number of values for passing from Class "B" to Class "A," require at that point, as he believed they did at the Ecole des Beaux Arts, certain other things, like construction and history and so on; and if they should do that at that point, it would bring the men up to a realization that they had to do something else besides go into these design competitions, which in themselves were excellent things.

Mr. Marshall said, the method produced the kind of draughtsmen they wanted, but that was not the way high art was going to be done. One could not do anything really valuable without thoroughly assimilating a problem, and if they assimilated a wrong thing they warped and dwarfed mental development. The proposition to educate an architect was not quite a hundred years old and it would be perfectly preposterous to think that human beings in that hundred years could devise a perfect method of educating an architect. The devising of an effective method for the education of people in relation to language had taken thousands of years. Why should they assume that the method devised to meet the special conditions in Paris should necessarily be the perfect method for themselves. The fault in that method that he saw was the tendency to produce splendid draughtsmen, clever business men, and to kill the artists.

Dr. Lorch said, the essential thing in Mr. Marshall's suggestion was that most of the men who took that examination had not had enough mental training to give them that power of analysis which belonged to the educated man. A lot of these boys thought they were educated men, when, as a matter of fact, they were merely draughtsmen. No educated body of men can afford to stand for a one-sided training in architecture. A man has got to be something more than a draughtsman; he has got to be able to carry a problem through from beginning to end and see the completed result when he starts in. Your wealth of rough material needs coaching, and needs a great deal of special preparation and very hard study, and perhaps the schools will take its place. It has got to be put before the young men of the country that they need a broad education as well as specific training for the practice of architecture.

The Building of the New Capitals.

Mr. E. B. Havell, in an article published in *The Modern Review*, says the building of the New Delhi and of the Capitals of the New Indian Provinces recently constituted, will be an epoch-making event of supreme importance for the artistic and industrial future of India. The decision as to whether this wonderful opportunity shall give a tremendous impulse to the revival of art and craft in India, and establish once and for all a sound basis for art and technical education, or whether it shall merely extend the long existing maladministration of the Public Works Department in architectural matters to much wider areas, now lies in the lap of the gods.

It is a fact that hitherto neither the Government of India nor any of the local administrations have had any settled opinion on this architectural question, the right solution of which is the key to many others in which both the economic and intellectual interests of India are deeply concerned. The decision as to the style to be adopted in public buildings has never yet been made on the only right and relevant issue for Indian administrators to consider, namely, what style will make best use of the artistic and economic resources of the country and develop the latent creative power of Indian craftsmen to the fullest extent ? It has always depended upon totally irrelevant and arbitrary side-issues such as, what style appeals most to the personal taste of the Head of the Department or Government concerned ? Or, what style is most familiar and congenial to the departmental officer, expert or non-expert in architectural matters, who is called on to design the building. The recent declaration of the Viceroy that the question will be seriously considered and that personally His Excellency is inclined towards the adoption of an oriental style for the new buildings at Delhi, augurs well for a right conclusion.

If the case is decided solely on the advantages which India will derive from a great impetus to Indian art and craftsmanship; there can be but one result. The present danger seems to be that the obvious merits of the case may be over-ridden by the *ex-parte* advocacy of experts unfamiliar with Indian conditions, or by the influence of the long tradition of a vicious departmental system. That this pernicious influence is still lurking in the background of official counsels seems to be clear from the latter part of the answer given by Sir Robert Carlyle to Sir G. M. Chitnavis' question in the Imperial Legislative Council in February last. concerning the employment of Indian builders at Delhi and other places :—

" The architects to be employed will be selected solely with regard to their qualifications for that important work and for dealing with the numerous complex problems connected with the design and construction of buildings adapted to suit modern requirements. Government have every desire to encourage the revival of Indian art in the Public Works Department and elsewhere, and will take every opportunity of doing so with a due regard to economy in the expenditure of public funds."

Reading between the lines of this reply it is easy to see the promptings of the old P. W. D. tradition. Writ clearly we have the two ancient departmental fallacies :— First, that Indian styles are unsuitable for and unadaptable for modern practical requirements. Second, that an Indian style is necessarily an expensive one, and therefore the P. W. D. has been and still is, the careful guardian of the public purse.

Any architect fully acquainted with Indian conditions outside the area of P. W. D. influence, and any layman tolerably well acquainted with the departmental history and procedure, will be able to expose the essential errors of these two propositions from all points of view, architectural, artistic or economic.

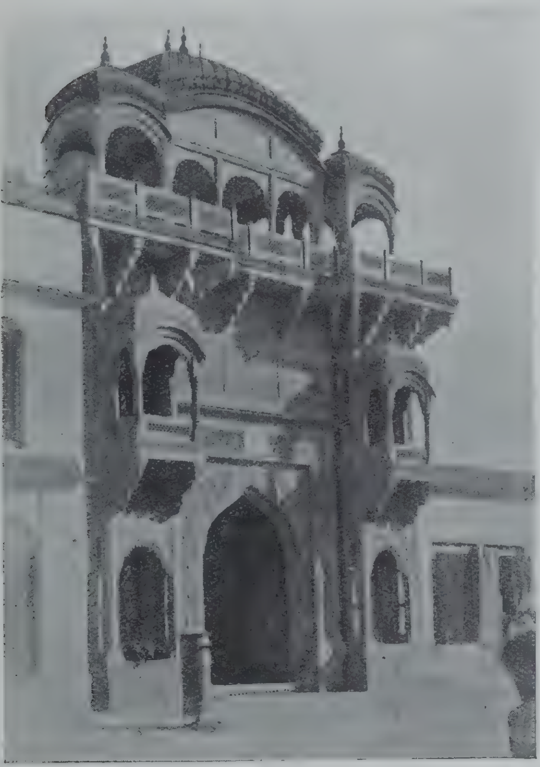
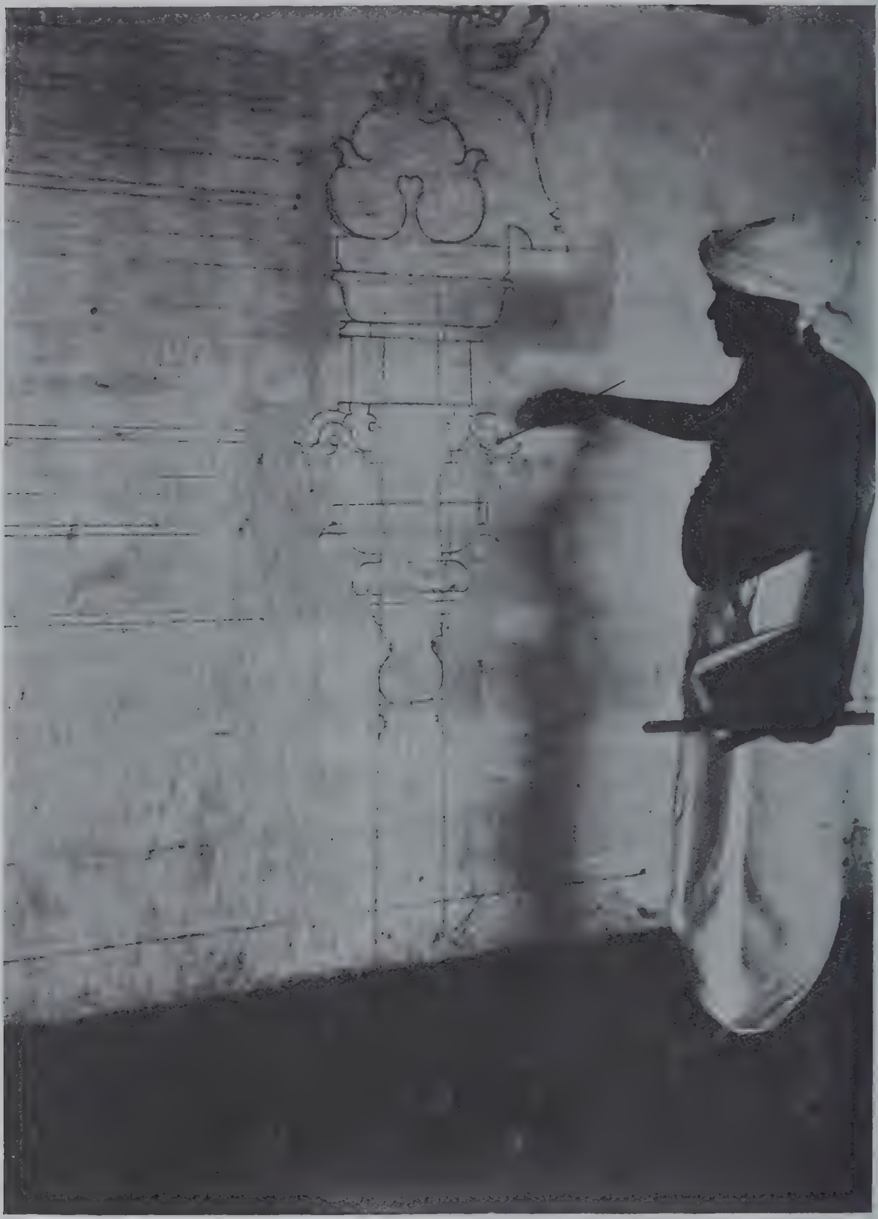


Photo by Mr. O. C. Gangoly

A MODERN INDIAN BUILDING AT BENARES.

I take it for granted that for many practical reasons the controlling architectural authority in such matters must, for a time at least, remain European. The first difficulty which an European architect always has to meet is the question of style—an Indian architect has no such difficulty, for his traditional practice settles it for him. With a European the case is different ; when he is asked to design a building in an Indian style, he must ask himself—what Indian style ? Shall it be an old one, like the buildings of Akbar's famous city at Fatehpur-Sikri, or a modern one such as he will find practised by the living Indian masterbuilders of the present day ? He will of course find out at once that neither the one nor the other is exactly suitable for European requirements in India. What then must he do ? Akbar had just the same difficulty to meet—none of the Hindu building styles existing in his time were exactly suitable for the Mogul habits or the requirements of the Mogul Court. Akbar, being a wise and practical ruler, made the best use of the artistic resources at his disposal : he made all his architects, Hindu, Arabian, and Persian, put their heads together and create a new style which suited Mogul life in India. This is the style which we call Mogul, though it was not Mogul, but



Photograph by Dr. A. K. Coomaraswamy.

A SOUTH INDIAN STHAPATI, OR MASTERBUILDER, DRAWING DESIGNS FOR A NEW TEMPLE IN ACCORDANCE WITH MEASUREMENTS GIVEN IN SILPA SASTRAS. HE CARRIES A BRUSH, A FOOT RULE, A SET SQUARE AND A BOOK. HE DRAWS ON THE STONE WALL WITH THE BRUSH IN RED, AND WORKMEN CUT ACCORDINGLY.

created for the Moguls by the architects they employed, the great majority of whom were Indians and Hindus.

The European architects who are employed in superintending the building of the new capitals, if they will utilize Indian resources to the best advantage, will, like Akbar's Court architects, join together with the best Indian masterbuilders of the present day in creating a new Indian style suitable for Anglo-Indian departmental needs. Of course, it should not be a stereotyped "official" style for all India, but varied in different localities to suit local conditions, local materials and local styles of Indian craftsmanship.

The difficulty of getting into touch with the best Indian builders should be greatly lessened by the fact that last year at the instance of the India Society of London, the officers of the Archæological Survey were instructed to take photographs of interesting modern buildings, designed and built by living Indian builders, and to collect information with regard to these builders. By this time there should be a mass of material of this kind which will be of the highest practical value for those who control the designs of the new buildings now required by Government.

There are three classes of Indian builders of the present day :—1st, the *Sthapatis*

Photograph by Dr. A. K. Coomaraswamy.

SOUTH INDIAN MASONS CARRYING OUT THE STHAPATI'S DESIGNS.

or architects attached to Hindu temples, who build and restore temples, bathing tanks and rest-houses for pilgrims, etc. They are generally most admirable craftsmen. 2nd, the ordinary *mistris* who are builders and designers of houses in Indian styles, both Hindu and Muhammadan, as well as Muhammadan mosques. 3rd, a very miscellaneous rabble employed by P. W. D. Contractors in Government buildings, with no traditions except those of the P. W. D. and of whom the description given by the Consulting Architect to the Government of India, Mr. Begg, " that they are masters of one art only—that of scamping—" may sometimes be justly applied. The first two classes are of a totally different order. I have often found among them men of a much higher artistic intelligence and more practical skill than is usual in craftsmen of a similar class with whom the architect has to work in Europe. Mr. Begg appears to have been unusually unfortunate, for other architects with longer Indian experience like W. R. F. Chisholm, formerly Consulting Architect to the Government of Madras, have testified that the labour procurable in India is " of a highly intelligent order." Any architect in Europe would rejoice to have such men as the best Indian master-builders for collaborators: modern European architecture would be much better than it is if such a large class of the finest craftsmen existed now in Europe. If the Public Works Department is to succeed in promoting the revival of Indian art, Government architects must employ craftsmen not only in mechanically copying their own paper designs, but as artistic collaborators who can take as much delight in real creative work as any artists in the world. Fergusson said truly that one can learn more from these men of real practical art than from any books ever written. It is among such men as these that the Consulting Architect would find the competent trained assistants, first-rate designers and builders, so urgently needed by his department. No architects in the world could desire better assistants: the only danger of employing them would be that occasionally the assistant-builders might prove to be the better architects, but that is a risk which the public service might reasonably take.

A new Board Room has been erected for the Toxteth Guardians from plans prepared by Mr. W. W. Thomas, architect. This Board Room is the last of many improvements which have been made to the public offices, which were erected in 1865.

The Education Committee of the County Borough of Stoke-on-Trent have appointed Mr. F. Morrall-Maddox, of Shrewsbury, as chief assistant in the architects' department. Mr. Maddox was the winner of the Society's Travelling Studentship this year, with a design for a Town Hall.

Reviews.

Military Architecture in England during the Middle Ages. By A. Hamilton Thompson, M.A., F.S.A. Oxford University Press, London (Henry Frowde). Price 7*s.* 6*d.* net.

By architects, at least, the same attention has never been given to the study of Military as of Civil Architecture. Its problems, except so far as they have influenced domestic planning, which is but slightly, have nothing to do with present-day requirements. It is a branch of archæological research alone. Even to the modern military man the castles of the Middle Ages have comparatively little interest, far less than the churches of the same period have to the ecclesiastic or even to the layman ; for with the development of new methods of warfare the old systems of defence are now so far obsolete that their study may even become a snare leading to disaster, while the Christian faith has remained the same and its ritual requirements have not greatly altered. Yet, humanly speaking, there is a romance about castle building which all other types of building lack. Men have been fighters ever, and the fighting instinct within each one of us is thrilled as he understands how his forefathers have fought : how they have attacked their enemies and how they have defended their homes. Methods of defence have varied, as weapons have improved and new systems of attack have been devised. This it is which the present volume emphasizes and elucidates, the changes being gradual and depending upon many circumstances, just as, of late years, have been the more rapid changes in the characteristics of our war ships—those castles of the sea which now serve much the same purposes to the whole community that the castles of the land used to do to their immediate neighbourhoods. It would be futile to endeavour to epitomize the book ; it would be impossible to adversely criticize it. Sequential in its arrangement, tracing everything to its apparent,—and sometimes to its not too obviously apparent, but nevertheless probable—cause, it is as exhaustive as anything of the sort which has been yet produced, and absolutely just in its conclusions, so far as present knowledge enables conclusions to be drawn. It is to be commended as one of the great standard works on architectural archæology of the last decade, alike readable and correct.

The Cathedrals of England and Wales (being a fourth edition of *English Cathedrals Illustrated*). By Francis Bond, M.A. (Hon. Member). London, B. T. Batsford. Price 7*s.* 6*d.* net.

Mr. Bond has done wisely in altering the title of this work, for he has amended the contents and added to them so largely as to make it practically a new book, founded upon a different conception of Gothic architecture than that to which he pinned his faith when *English Cathedrals Illustrated* was written, now thirteen years ago. At that time, Mr. Bond had hardly realized that Gothic architecture was a gradual sequential growth. He followed the earlier writers, who had attempted to discriminate between the Norman, Early English, Decorated and Perpendicular periods as if there were hard and fast lines of demarcation between them. He is now the leader of the more reasonable school which holds that the changes were gradual, and not even simultaneous in all parts, subject to all sorts of local influences and varying ritualistic and constructional requirements. He has, in fact, rescued the study of English architecture of the Gothic school from the doctrinaire and made it a living reality, full of human interest. From his point of view—undoubtedly the right one—each cathedral has a different tale to tell, and he has done his best to interpret it so that others may comprehend, and perhaps carry the interpretation further ; for there is no finality in this sort of thing. To those who wish to do so the numerous photographic illustrations, and especially the clearly drawn plans to uniform scale which are now added, should prove most valuable.

Old Towns and New Needs; also the Town Extension Plan. Being the Warburton Lectures for 1912, delivered by Paul Waterhouse, M.A., and Raymond Unwin, F.R.I.B.A. (Member). Manchester: at the *University Press.* Price 1*s.*

A more original thinker and more diverting lecturer than Mr. Paul Waterhouse it would be difficult to find. Shrewd in his reasoning and definite in his speech, his words carry conviction with them, especially when dealing with problems of city extension and the amendment of city plans, to which he has been called to devote considerable attention at various times. Thus in spite of the conclusion at which he arrives, that "Town Planning is a rash game at best," he is able to show how the game can be played with comparatively little rashness, if only it be also played with skill, and an appreciation of the fact, often overlooked but emphasized by him, that "a city is or should be a work of art." He advocates again, as he has done at other times and in other places, the introduction of bridge and subway crossings, and of the gyratory principle of traffic regulation where several streets meet of necessity at the same level, and the provision of parallel alternative routes in place of the crude widening of old thoroughfares; but the lessons which he draws from Wren's plan of London, as considered in relation to the present great city of that name, are new and intensely interesting, and the six axioms with which he concludes are deserving of being forced upon the attention of every public body as whole-heartedly as ever Euclid's axioms were forced upon a schoolboy. Unfortunately, Mr. Unwin is less successful in rivetting the attention. At one time he also was an inspiring lecturer, but in this discourse he devotes much space to facts and figures, which make dry reading. At the present stage of town planning development their consideration is essential if the hard practical man of business is to be influenced.

Validity of the Illinois Architects' Licensing Act.

The Illinois Statute of 1897, prohibits any person from practising architecture in the state without a license. Section 9 provides that any person who shall be engaged in the planning or supervision of the erection, enlargement, or alteration of buildings for others, and to be constructed by other persons than himself, shall be regarded as an architect; but nothing contained in the act shall be construed to prevent any person, mechanic, or builder from making plans and specifications for or supervising the erection, enlargement, or alteration of any building that is to be constructed by himself or his employees. In an application for mandamus to direct the Civil Service Commission to certify the relator for appointment as city architect for Chicago ("People *v.* Lower"), the act was held to be valid by the Illinois Supreme Court, and not violative of U.S. Constitution Art. 2, sec. 2, providing that no person shall be deprived of life, liberty, or property without due process of law, nor of the 14th amendment. The section properly defined the occupation of an architect. He is one who makes it his occupation to form or devise plans and designs and to draw up specifications for buildings or structures and to superintend their construction. Any person erecting a building may employ an architect if he sees fit, or may make his own plans and specifications, and he does not become an architect by planning the building which he erects.—*Building News.*

License Legislation in America.

The special Committee on Legislation appointed by the American Institute of Architects, pursuant to a resolution passed at the Annual Convention held in San Francisco, in January, 1911, in the course of its report presented at the Annual Convention in December last, shows that they have studied the existing state laws regulating the practice of architecture with a view of securing harmony in such laws, both present and future, so far as the interests of other states may be affected by the law in any one State, and with a view also of assisting in an advisory way the profession in any state which contemplates new legislation.

In the matter of Registration or License of Architects, since the Illinois law was passed on June 3rd, 1897, similar state laws regulating the practice of architecture, by means of state enactments establishing boards of examiners having authority to issue registration or license papers to architects entitled to practice, have been passed by five other states, namely, New Jersey, California, Colorado, Utah and Louisiana. Registration laws are under consideration but not yet enacted in Missouri, Indiana and New York, and the various provinces of Canada have passed registration laws.

The Province of Quebec Association of Architects under an act of incorporation passed in 1890, possesses imperial power to regulate the practise of architecture in that province. In fact "no person can take or make use of the name or title of architect, either singly or in connection with any other word, name, title or designation, giving it to be understood that he is an architect under this act, unless he is registered under this act as a member of the said Association," This Association of architects is given such broad powers that no one can practise without becoming a member and paying annual dues and obeying all regulations of the Association.

Parliament has affixed prohibitive protective duties on architectural drawings made in the United States. Architects on this side of the border who design buildings to be erected in Canada must pay a heavy duty on the drawings, unless they join the provincial association and thus secure permission to practice in Canada.

It may be questioned whether the motive behind some of this legislation has not been to keep out the architects of other states. Assuming, however, that the only legitimate reasons for such legislation are the raising of the standard of qualifications of the profession and the protection of the public against unsafe and otherwise badly designed buildings, it would seem desirable that all such legislation should encourage the highest possible standard on a basis which will lead to the ultimate recognition of architecture as a learned profession, and also that this standard should be as nearly as possible the same in all states, when there should be little difficulty on the part of a registered architect of one state securing permission to practise in any other state. There has been a disposition on the part of the Boards of Examiners of

Illinois, California, and elsewhere, to welcome competent practitioners from other states without imposing unreasonable obstacles, though this condition does not always obtain, as shown by the fact that an architect of another state has characterized the New Jersey law as a "hold-up," and he adds "if you ever get a license law in the State of New York, I hope it will be so strenuous that the New Jersey architects will have to keep on their side of the river."

Mr. Peter B. Wight, who has been Secretary of the Illinois State Board of Examiners since its institution fourteen years ago, expresses the opinion that the laws should not only be uniform, but they should all be passed equal to the highest standard set by any one state.

The State of Utah has now the only law which compares favorably with that of Illinois. The others are so defective as to be of very little value. The law in California is defective in many respects, but the State Board in that state has set a very high standard in their examinations. In that state the Board has, without strict legal authority, agreed to receive and license any person licensed in this state, after *examination.* The law in Illinois says nothing about receiving a person licensed in another state, and the Illinois Board has never yet considered that it will receive an architect licensed without examination in California.

If this kind of reciprocity should prevail, it should be provided for in an enactment and the State Boards should not be allowed to assume doubtful authority in interpreting the law. The New Jersey law allows the Board to license any person who is licensed in any other state, whether he has been examined or not. That makes the law almost useless as to keeping incompetent persons out of the state.

As vexatious problems may arise from miscellaneous legislation if no concerted steps are taken in anticipation of such legislation, the Committee recommends that a serious study of all existing legislation affecting the practise of architecture be made with a view of adopting a policy regarding such legislation.

The council of the Institute of Architects of New South Wales informally welcomed Mr. R. Howden, M.S.A., President, Transvaal Institute of Architects, on Wednesday, 15th May, 1912.

A very interesting discussion took place on Registration of Architects, Mr. Howden having the honour of being President of the first Institute in any State of the British Empire, who have got Statutory Registration of Architects. He gave the Council much information with regard to the passing of the Bill, and the raising of the Status of an architect in South Africa.

British School at Rome: Scholarship in Architecture.

The Scholarship in Architecture at the British School at Rome, offered by the Commissioners for the Exhibition of 1851, will be of the value of £200 per annum, and will be ordinarily tenable for three years. The Competitions will be conducted by the Faculty of Architecture of the British School at Rome.

The Examinations will be graduated and in three stages :—

A. Qualifying Examination open to British subjects under 30. The subject will be announced in the autumn, and the design is to be sent in before January 20th, 1913. From candidates entering for this Examination the Faculty will select those eligible to compete in the First Competition.

B. A First Competition, to be held from March 15th to May 15th, 1913, open to candidates selected in the Open Qualifying Examination, to the winners of certain Scholarships, and to candidates nominated by certain bodies.

The subject will be set by the Faculty, who will also determine the number and character of drawings required.

Candidates will be allowed two months for the preparation of their designs, reckoned from the date of the issue of the subject with its conditions.

C. A Final Competition, open to not more than ten candidates selected from the candidates in the First Competition.

The subject will be set by the Faculty, and will be announced in the room on the opening of the first sitting of the competitors. The Competition will be held "en loge" in London. It will begin on September 15th, 1913, and continue till October 4th.

Competitors will be required on the first day to make a sketch design which shall be covered with a sheet of tracing paper sealed down in the compartment by the Moderator at the end of the first day.

In their finished designs the competitors must adhere generally to the idea of the sketch design.

The Faculty will select the successful candidate for the Commissioners' Election.

Candidates who have gained a place in the list of eligible candidates for the First Competition, either as the result of the Open Qualifying Examination or in virtue of their having obtained certain Scholarships or of their having been nominated by certain bodies, or who have failed in the Final Competition, will be entitled to compete again in the First Competition, until the age limit defined above has been reached.

Examinations for Membership.

An Examination to qualify for Membership in The Society of Architects will be held in London, Manchester, Leeds, Cardiff, Birmingham, Oxford and Dublin, on October 1st, 2nd and 3rd, 1912. The latest date for entering for the Examination is September 9th, 1912.

Candidates for the Examination must be 21 years of age or over, and have served at least three years' pupilage to an architect, or produce such other evidence of architectural training as may be required by the Examiners.

Professional Conduct and Practice.

Members are already familiar with the details of the proposals for a code of professional ethics as set out in the report published in the May Journal of the discussion on the above subject held by The Society of Architects in April last. The matter has since been again before the Council, and suggestions for a code have been drawn up by them, and distributed to the Members for their consideration. The Council will, on September 5th, proceed to consider any observations or suggestions made by members before finally drafting the regulations for inclusion in their annual report, which will be presented for adoption by the members at the Annual General Meeting on October 17th. It will be assumed that members who do not make any comment thereon are in agreement with the present proposals. Should any member not have received a copy, he should communicate with the Secretary.

Professional Questions in New South Wales.

The annual report of the West Australian Institute of Architects states that the Registration Bill has again received serious consideration, and has been advanced one stage further by the request of the Premier (Mr. Scaddan) to submit to him the basis upon which they desire registration to be made, and the draft measure they would like the Government to support. The information and draft Bill was supplied, and Mr. Scaddan has promised that the matter will be taken into consideration, and if duly approved, arrangements are to be made for its submission next session. The code of ethics as finally approved by the members has passed through all its various stages, and copies, together with the revised scale of charges, have been printed, framed and sent to the various practising members for ready reference in their offices. In passing, mention might be made that copies of this code were sent to the Institutes in the Eastern States, and the correspondence received from them has been of a most congratulatory nature, they expressing a desire to adopt this code. The council sincerely trusts that now they have established this code of ethics, members of the Institute will embody it in their daily practice, and by this means raise the prestige of the profession.

Mainly about Members.

The new wing of Croydon Hospital, which has been erected from the designs of Mr. Frank Windsor, as a memorial to King Edward, and was recently opened, has cost £5,500.

Mr. T. Marcus Houghton points out that the estimated cost of the new Headquarters for the National Naval Cadets designed by him, is £20,000 and not £10,000 as stated in our last issue.

A new parish hall recently opened at Shoreham, Sussex, contains two halls, the lower of which seats 600, and the upper 500. The architect is Mr. A. W. Nye, and the builders are Messrs. W. A. Gates & Son, of Shoreham. The total cost is expected to be about £1,500.

In connection with the Spalding housing scheme promoted by the Urban District Council, Mr. J. B. Corby, F.S.I., of Stamford and Spalding, has been selected from three local architects to prepare the plans. Instructions have been given to have the plans prepared forthwith for submission to the Local Government Board, and as soon as the proper authority is obtained the work will be commenced.

Owing to the accommodation of the Wharfedale Isolation Hospital at Menston, Yorkshire, being inadequate, the Committee decided to invite architects practicing in Wharfedale to submit designs for new Diphtheria and Convalescent Pavilions, also a new wing to the present Administration Block. Messrs. J. H. Wall, Otley; Harold Chippendale, Guiseley; A. Marshall & Son, Otley and Leeds; and Empsall and Clarkson, Bradford, sent in designs. The design No. 3 was recommended as most suitable and unanimously adopted by the Committee. On opening the sealed envelopes this was found to be the one sent in by A. Marshall & Son, who have received instructions to carry out the work, the cost of the scheme being about £3,000 to £4,000.

The King has been pleased to approve the appointment of the Lord Saye and Sele to be Comptroller of the Household, in succession to the Earl of Liverpool, M.V.O. This appointment will take effect from November 1st, 1912. The vacancy in the office of Comptroller, says the *Daily Telegraph*, is caused by the appointment of the Earl of Liverpool to be Governor of New Zealand, in succession to Lord Islington. Lord Saye and Sele is the eighteenth holder of the title created in 1447. The first Lord Saye and Sele was a victim of Jack Cade's mob as related in Shakespeare's "Henry VI."; the second fell in the battle of Barnet. The present peer entered the Army in 1879, and served with distinction in the Zulu War of 1879-80. His Lordship who honoured the Society by accepting Honorary Membership in 1910, takes an active interest in the Registration question, and is a member of the Society's Committee.

Advertisements in the Journal.

Members are reminded that they can considerably enhance the value of the *Journal* as a source of revenue to the Society, by mentioning the publication in communicating with the firms whose advertisement appears therein. By doing so the members make the *Journal* known as a useful medium between the producer and the consumer.

Meetings and other Fixtures, 1912.

Sept. 5th. Council Meeting. House List, etc.
,, 9th. October Examination Entries Close.
,, 29th. Last day for submitting Students' Quarterly Competition Work.
,, 30th. ,, ,, ,, ,, Scholarship Measured Drawings.
,, ,, ,, ,, ,, ,, Nominations for Officers and Council.
,, ,, ,, ,, ,, ,, Travelling Studentship Report.
Oct. 1st, 2nd, 3rd. Examinations for Membership.
,, 3rd. Council Meeting.
,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.

Annual General Meeting.

The Twenty-ninth Annual General Meeting of The Society of Architects will be held at 28, Bedford Square, London, W.C., on Thursday, October 17th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Council's Annual Report.
6. Election of Officers and Council, 1912–13.

Light refreshments will be served after the meeting.

Smoking permitted.

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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Artistic Design in Engineering.

Professor Archibald Barr, in the course of his Presidential address before the Engineering Section of the British Association, expressed the view that the engineer fails in the fulfilment of his duty in so far as his works are detrimental to the health or destructive to the property of the community, or in so far as they are unnecessarily offensive to any of the senses of those who are compelled to live with them. Proceeding, he said, there were injuries which engineers might inflict upon the community other than those to health and physical comfort. Every one, even the least cultured, had some sense of the beautiful and the comely, and was affected by the aspects of his environment more than he himself could realize. The engineer, then, whose works needlessly offended even the most fastidious taste was acting contrary to the spirit of his profession, at its best. There had been far too great a disregard of æsthetic considerations in the everyday work of the engineer, who usually took a too exclusively utilitarian view of his calling. A greater regard for artistic merit would not necessarily lead to extravagance, but, in many cases, would conduce to economy and efficiency. There was, or ought to be, a closer connection than was usually recognised between the work of the engineer and that of those to whom was usually restricted the title of artist. There was no great gulf fixed between the fine arts and the utilitarian arts in earlier times. Such men as Michelangelo, Raphael, and Leonardo da Vinci might be claimed as masters in the arts of construction as well as in those with which their names were usually associated. The separation of the beautiful and the useful were quite a modern vice.

There was an old maxim to the effect that the designer should ornament his construction and not construct his ornament. This was an admirable rule so far as it went, but it should be subordinated to a higher rule, that he should ornament his structure only if he lacked the skill to make it beautiful in itself. A structure of any kind that was intended to serve a useful end should have the beauty of appropriateness for the purpose it was to serve. It should tell the truth, and nothing but the truth, and if its character were such that it could be permitted to tell the whole truth, so much the better. It should be beautiful and not beautified. The practice of resorting to extraneous adornments to minimize crudities of structural scheme had its rise in the comparatively recent times when culture and taste were at their lowest, and it was specially characteristic not only of earlier times, but of the earlier stages of the design of any particular product. It had already disappeared in some cases and would continue to disappear from the practice of the arts of construction as skill and taste developed.

It was constantly remarked, and with justice, that steel bridges, as a class, were much less pleasing to the eye than those of stone. The reasons for the contrast in artistic merit were not far to seek. The building of stone bridges was an ancient art, and survival of the fittest, and selection—even with little creative skill on the part of the designers—would have led to the development of types having, of necessity, at least the elegance of fitness. But further, this art had come down through the times when artistic and utilitarian aims had not yet been divorced, in the practice of the crafts ; and further still, the practice of building in stone had been in the hands of architects, as well as of engineers, and architects were expected to be artists, and were trained as such. On the other hand, construction in steel was a very modern art, and it had been in the hands of engineers who usually neglected, if they did not despise, the study of the fine arts. But why had architects, with their artistic training, not succeeded in producing structures in steel as admirable as those they designed in stone ? Partly, no doubt, because they were hampered by tradition, and partly—if a common engineer might venture the criticism—because, as a rule, they had not sufficiently mastered the science of construction, and had been too much addicted to taking the easy course of adopting a decorated treatment instead of striving to secure elegance of structural scheme as such ; and decoration, at least on anything like traditional lines, was wholly incompatible with the best possibilities of steel as a structural material. Progress was being made in the art of designing efficient and graceful structures in metal, but the best results could only be attained by a designer who had a thorough scientific and technical knowledge of the properties of steel and the processes of its manipulation, on the one hand, and cultured artistic sense and capacity on the other.

Relaxation of Building By-laws.

The Local Government Board have intimated to District Councils that it is undesirable that the by-laws in any area should afford any ground for the suggestion that they are either unnecessarily restrictive or obsolete in character.

For example, the earlier forms of by-laws with respect to walls, which were framed with particular reference to brick construction, are inappropriate to building construction with hollow blocks or slabs of terra cotta, reinforced brickwork, or reinforced concrete ; and many of the older by-laws do not provide for hollow or half-timbered walls and steel or other framed walls hung with tiles, slates, &c., filled in where necessary with incombustible materials. Certain relaxations are now frequently introduced in connection with wall construction where the use of piers is employed, and also in the thickness of the walls of outbuildings. Again, the ordinary clauses for the laying out of roads do not permit some of the classes of roadway which have been designed in some "garden cities," or the exceptional arrangements which are demanded in certain cases by the configuration of the ground. It therefore behoves all local authorities from time to time to consider the terms of the by-laws in force in their areas, so as to see that they are sufficient to meet present day requirements. The Board will be happy to render assistance to any authorities who may desire to modify their existing by-laws by referring them to clauses which have been embodied in series already adopted or by such other suggestions as may be practicable.

In many parts of the country, and particularly in rural areas, there is great need for better cottage accommodation, and Rural District Councils should be careful to see that the requirements of their by-laws, whilst prescribing conditions essential to health, are not such as to offer any impediment to the erection of suitable dwellings.

In areas altogether rural in character a restricted series would be more suitable, and in 1901 the Board compiled a model series of building by-laws for rural districts, which dealt only with such matters of sanitary importance as most need regulation and control. By-laws based on this model have to a considerable extent been adopted for these areas, and the Board believe that experience in their working has shown them to be generally sufficient to secure the observance of proper sanitary requirements. The Board have also tentatively framed for working purposes a series intermediate in character between the urban and rural model codes suitable for rural areas which are beginning to assume urban characteristics. This series contains the same clauses with respect to the level, width and construction of new streets as the urban model, but includes only those clauses concerning the structure of walls, foundations, roofs and chimneys of new buildings which are the most important for securing stability and the prevention of fires, and for purposes of health. It also contains a special clause partially exempting small dwellings, where sufficiently isolated, from the structural requirements relating to walls,

Some Notes on French Gothic.*

FRANCE was the native country of Gothic architecture. French Gothic would have been what it is if there had been no Gothic churches elsewhere, but the Gothic of other countries could not have been what it is but for the Gothic of France, and Gothic architecture grew with the building of churches that were meant to be no background, but the centre of the life of man ; and compared with them man himself, with all his worldly business, was counted as nothing. Thus the building of Gothic churches was serious art. Its purpose was to provide a place of worship, and its problem was to make a place worthy of the God to be worshipped.

This is the reason why the structural and æsthetic problems of Gothic were so closely connected. They were both subject to a great purpose which made them one.

Structure and ornament are closely connected in Gothic architecture, and ornament seems to be always harmonious with structure. The structural problem itself is mainly a problem of expression, and therefore it has just the same purpose as the ornament. In modern architecture there are a thousand different structural problems, and most of them have no connexion with any purpose of expression. The uses of a club or a block of flats or a huge shop do not in any way excite the higher emotions of man, and so these emotions cannot be expressed in their structure. Thus, if there is any attempt to express them, they must be expressed in ornament alone ; and for the modern architect there are usually two quite different problems, the purely structural problem, which is really an engineering problem, and the expressive problem, which is too often confined to the ornament. But in the great Gothic churches the engineering and the expressive problems are one.

Yet there is a beauty in all strong and daring engineering which is usually not a beauty of architecture, because it is not expressive of any emotion, but comes from the perfect performance of some material function. A great Gothic cathedral has both kinds of beauty united in most of its structural parts.

But this harmony is seldom complete except in French Gothic. In English the ornament is apt to be more expressive than the structure ; in Italian still more so.

Height is naturally the chief means of attaining sublimity in a building made of vertical shafts with screens of glass in between ; and the French, striving ardently and logically after the sublime, made their churches higher and higher. French Gothic, with all its richness and diversity of fancy, will not be distracted from its main problem. Structure is always its chief business. The interior sublimity of a French cathedral seems to be a triumphant defiance of the attraction of gravity.

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*A brief summary of articles published in *The Times* from August 16th to 23rd, 1912.

We know that the slender shafts which soar so straight and high could not support the vault ; and outside there is no concealment of the manner in which it is upheld. Indeed the outside, for all its beauty, is the wrong side of a French cathedral, and, as it were, a mass of permanent scaffolding to keep all the stones of the interior in their places. But for its sculptured ornament and its towers it is a pure piece of engineering ; it is and it looks a complex mass of straining effort, as the interior looks an effortless miracle.

This strain and unrest, the excess of engineering on the outside, is the weak point in French Gothic, the price which it has to pay for its unparalleled sublimity inside. The innumerable flying buttresses, carrying the thrust of the vault to the huge buttresses of the aisles and so to the ground, are devices purely mechanical. They have the beauty of giant and labouring strength, but are too hard at work to express anything else. French Gothic is an architecture of extremes, ready to make any sacrifice for one extreme beauty ; and those who prefer a beauty less extreme and more perfectly distributed will not like a French cathedral so much as a Greek temple. There can be no doubt of the extreme beauty of French Gothic churches such as Bourges and Chartres and Beauvais. They are works of art which, so far as we know, have only once or twice been equalled in the history of the world.

Some ages are almost inarticulate ; from others only a confused and discordant noise goes down to posterity ; but a few express themselves in clear and enduring terms of beauty. France in the 13th century had this power above all other nations. In her churches she expressed all her nobler desires so well that even now when we enter one of them we seem to be in Heaven ; and, unlike the poems of England or the pictures of Italy or the music of Germany, they seem to be the work not of a single man but of an age of genius. Yet there are differences both of character and of excellence in the four great cathedrals of Bourges, Chartres, Amiens and Beauvais, as in all works of art. Two of them, Chartres and Bourges, seem in different ways to express completely the temperate genius of their architects. One, Beauvais, seems to express incompletely an intemperate genius. And another, Amiens, seems an example of the best that talent can do in the most favourable circumstances. But even in those circumstances there is a difference between talent and genius ; and we are aware of it when we compare Amiens with Bourges.

Bourges.

Bourges is a cathedral planned in the 12th century but mainly built in the 13th. It has some wonderful sculpture of the 12th, a fine outbuilding, two towers, and some detail on the west front of a later time ; but the main fabric from east to west is all of one age and looks as if it were all the design of a single mind. There is something modest about the great west front, even when you face it full. There are two towers of unequal height—the lower of the 14th century, the other flamboyant. Both are splendid, and so are the porches, yet the whole has a countrified look as if it had grown there into beauty by a lucky chance.

But when you enter the church the surprise is all the greater. From west to east there is no interruption of the main columns, each of enormous height. Without the break of a transept they run to the glittering circle of the apse and so back again. The soaring effect is obtained by the device of lengthening the piers at the expense of the triforium and clerestory. These together fill only about a third of each bay, and if a bay is looked at by itself there seems to be a great disproportion in its three parts. But there is also a curious poverty in all the details. The piers are very thin and their shafts look weak and monotonous. The capitals are insignificant, and seem to consist of about an inch of leafage below an inch of moulding. The moulding of the arches is no richer, and the shafts that run up to the vault are as weak as the shafts round the piers. Both the triforium and the clerestory look almost mean.

Yet the interior of Bourges does not grow monotonous; and the designer of it planned his bays thus, not because he was mean-spirited or wanted to make a great show at a little cost, but because he had a great and original idea to which he subordinated all detail. In the main body of the church all the lines are vertical, soaring as thin as jets of water until they arch and meet in the vault. But behind them in the aisles there is a multitude of other forms curving and twisting—deep mouldings, delicate traceries, boldly-carved leafage, and strong clustered piers—such a background as can be found in no other Gothic cathedral.

The peculiarity of Bourges, which it shares with Le Mans, is that the inner aisle is far higher than the outer. The unusual proportion of the bays of the nave and choir, with their small triforium and clerestory and their very lofty piers, was contrived so that the inner aisle might have this great height; and the outer aisle was made far lower so that there might be room for a triforium and clerestory on the outer side of the inner aisle, which therefore bears the same relation to the outer aisle that nave and choir bear to an ordinary inner aisle.

So the architect was able to sacrifice everything in the nave and choir to the effect of height and uniformity without falling into poverty and monotony. The eye grasps the main plan at once. No other Gothic church has such a unity, for there are no transepts between nave and choir to suggest something unseen round the corner. But when the main plan is grasped there is still all the subsidiary richness which satisfies without tantalizing, for it does not draw the eye away from the central beauty of the apse, with its blaze of stained glass. Bourges has but little diversity of outline. No French cathedral is so unlike our long, low, varied English cathedrals. The exterior of Bourges, because of its height and uniformity, looks short. It is not quite so large as Amiens or Chartres, but it seems far smaller. The flying buttresses are not weighty or clearly articulated in all their parts as at Chartres. Indeed, they look almost as slender as spars and slant down at a very sharp angle to the wall below them. The greater number of the windows are lancets, single in the two lower storeys and in the clerestory in groups of two, with a plainly cusped wheel window above each group. This was the nearest approach to tracery that the builders of that time had made. Yet Bourges outside has a kind of lyrical beauty and unity, far removed from the epic diversity of Chartres. For all its bulk it looks simple and slender, and seems to be neither large nor small.

In its main design, however, Bourges has all the airiness of later Gothic, without its extravagance. It was built at a happy moment when the builders were masters of their craft, but not yet arrogant in mastery. They still treated their material with respect, and Bourges looks as if it were built of stone, not of some substance that could be stretched and twisted as easily as liquorice. The chief later addition, besides the northern tower, only adds grandeur and strength to the airy beauty of the exterior. It is a noble outhouse against the south tower that was built for the most part in the generation after the main body of the Cathedral. The upper part of it was once used as a prison, and it has the massiveness and simplicity of Roman building. Here, perhaps, the Southern delight in great plain masonry had a chance of mastering the Northern Gothic spirit. At any rate there is nothing Gothic about this building except the tracery of the small windows and some panelling on the upper part of the massive buttresses.

Bourges is pre-eminent in sculpture both of the 12th and 13th centuries. It surpasses Chartres in the earlier sculpture of its side porches and Amiens in its Last Judgment over the great door of the west end. The inner part of the side porches belongs to an earlier church of the 12th century. The outer is pure Gothic with all the beauties and none of the defects of contemporary Italian work. In them, as nowhere else, one may compare the Romanesque sculpture with the Gothic, and see what a vast difference there is between them. In the first the inspiration comes from the South and from the distant Roman past. In the second it comes from the North and seems to look forward to the art of Rodin as much as the sculpture of Donatello a century later. The magnificent Romanesque figures of the south porch are the final works of an ancient tradition ; they are sculpture tamed into perfect congruity with the growing art of architecture and yet full of their own life and character. Like the half-Corinthian capitals of the same age, they tell us where the new building had its source and are symbols of the continuity of civilization. But in the Gothic sculpture, as in all the detail and design of complete Gothic, that continuity seems to be broken. The noble headless figure of a saint in the same porch is a symbol of a new generation that looks forward, not back, and has lost all memories of the old world and its overpowering perfections.

Chartres.

The great mass of Chartres Cathedral, as of Bourges, belongs to the prime of Gothic. In 1194 an older church, except the crypt, the western towers, and part of the west front, was burnt down. By 1226 the great mass of the church was built. Then followed the glazing and decorating and the building of the towers about the transepts and apse. In 1260 the church was consecrated, and the splendid porches of the transepts were finished about 15 years afterwards. We may therefore regard the whole of Chartres as one design, except the west front and the western towers and spires. These belong to three different periods. The west front up to the bottom of the rose window, with its northern tower and its southern tower and spire, remain from the earlier church of the 12th century ; but, as it stands, is a drastic modification of the 12th century scheme. The towers originally stood forward from the front ; between them, deeply recessed, were the three sculptured portals we still admire to-day. When the present church was built, these portals, uninjured by the fire of 1194, were taken down, brought forward, and rebuilt so as to line with the western, not the eastern, front of the towers. The rest of the west front was built with the bulk of the church, while the northern spire belongs to the last age of Gothic, and was the work of an architect who turned afterwards to the Renaissance style. The west front looks the piecemeal work it is. All the parts have great beauty, but they are not well combined as they are in the west front of Bourges.

If, then, we are to regard Chartres as a single work of art, we must ignore the west front, and we must ignore also the outrages of the last two hundred years. In the 18th century the Chapter spent about half a million francs in attempting to make the choir look like a restaurant. They covered up the piers with stucco meant to imitate marble, and added "classical" capitals. Between the piers they put bas-reliefs of white marble. Over the altar they placed an enormous marble travesty of the Assumption ; and, worst of all, they knocked eight stained glass windows out of the clerestory so that all this rubbish might be better seen. As to the exterior, it has suffered much restoration, and looks like a great picture with obvious repaintings. The north transept is even now being restored, and, to judge by the south, is sure to lose much of its beauty.

But in spite of all this Chartres has only one rival, namely Bourges, among Gothic churches ; and it would not lose its character even if it lost all its decoration of stained glass ; for it is not, like Amiens or Beauvais or even its contemporary Bourges, a building made up of concentrated supports with screens of glass between them. In fact, it is less Gothic than these other churches ; and even than the earlier Cathedral of Paris. Its designer must have been a conservative in an age of eager innovation. No one knows who he was, but his work proves that he offered some resistance to the main Gothic tendency of his time. It proves also that his resistance was not blind or ignorant. All its peculiarities are justified by the general effect, but that is quite different from the general effect of Bourges or Amiens or Beauvais. The designer of Chartres evidently had that Southern love of masonry, of great rocks set one on the top of the other. He emphasized the labour and the strength of building ; and his church looks as if it had grown out of the earth and were planted in it like a forest tree, not as if it were miraculously superior to the attraction of gravity. Therefore he insists on every detail and member of it, so that we see plainly how one weighs upon another ; and he does not, like the other Gothic architects, conceive his church entirely from the inside. Outside and inside are equally important to him, and he makes every member, including even the buttresses, look as if it had an independent æsthetic reason for its existence.

He proved his genius by the successful compromise which he made between the predominant Gothic tendency of his time and his own individual taste ; for, while the outside of Chartres is more full of character and independent interest than any other exterior of the time, there is no sacrifice of interior sublimity to it. There is no airy lightness about Chartres, but enormous and stately strength, energetic but not straining ; and the windows, for all their multitude and splendour, look like openings in the massive walls, not like screens of glass. The outside has the same kind of beauty as the inside, though its beauty is still less Gothic. It is worth noticing, in the first place, that the clerestory windows are round and that their roundness is emphasized outside by a deep plain moulding. The aisle windows, which are pointed, are much less emphasized. Also there is scarcely a pinnacle outside except on the western towers, which are not part of the main design, and on the transepts. Everywhere horizontal lines are strongly marked, and everywhere parts are sharply articulated. There are many other details which give a Romanesque dignity to the whole, and the very stones are larger than in most Gothic cathedrals.

The piece of ground about the apse is the pleasantest place in Chartres. It is part of the Bishop's garden, now deserted and running to waste. The west end opens on a dull square. The east loses itself in this little wilderness of trees ; and so vast and diverse is the flank of the church that there seems to be a great orderly city between them. It has six subsidiary towers besides those at the west end, two at each transept and two close to the apse. These all act as buttresses, but they have great independent beauty of their own. There is nothing in architecture to surpass the two transept fronts, especially the southern, the beauty of which has been marred but not destroyed by restoration. Here the compromise between Gothic and Romanesque combines the best qualities of both. There is the same effect as in the colonnades of classical architecture where repeated vertical lines combine in broad horizontal masses. The three porches with all their clustered shafts make one mass ; and above them is another less emphatic, made by the lancet windows and the shafts round the buttresses. Still higher the great rose window counteracts the vertical effect of the narrow bands of tall shafts on each side of it. The whole design is perfectly lucid and yet infinitely rich in detail. The porches still keep a beauty of design equalled only by that of the north and south porches at Bourges ; but most of the beauty of detail has been spoilt by restoration. The north transept, fine as it is, is much inferior to the south. It lacks the clustered shafts which give force and richness to the south front, though its porches, which are now suffering restoration, have great beauty of detail.

Chartres is famous for its great choir screen and its enormous crypt, but most of all for its glass. It has more of this, perhaps, than any cathedral in the world. If eight windows had not been removed from the choir in the 18th century there would be scarcely any plain glass in it ; and the glass at Chartres glows and shines all the more because its windows are openings in the massive walls and not screens between concentrated vertical supports. The interior is dark, with burning, many-coloured spots of light, and the eye is drawn to these one after another, without being dazzled or bewildered by their combined splendour. Thus at Chartres one can study window after window separately, and one can note how perfectly the drawing is adapted to the colour in nearly all of them. The old designers of stained glass knew by instinct, as most modern designers do not, that their drawing must be just as far removed from reality as their colour. Their figures may seem grotesque to those who regard them simply as representations of fact, but they represent fact just as much as their colour and no more. We must always remember that a stained glass window is a window, not a picture ; and, if we regard it as decorated light, we shall see that many of the windows at Chartres, as elsewhere, are masterpieces in drawing as well as in colour, for their drawing could scarcely be better adapted to their main purpose. The art of stained glass was peculiarly Gothic, far more so than the art of sculpture or wall painting ; and it continued to flourish up to the very end of Gothic, developing with every enlargement of window space. In later windows at Tours and elsewhere the full-blown glories of Titian and Correggio are rivalled in complexity of design and even in emotional power ; but at Chartres most of the stained glass has a Pre-Raphaelite modesty and simplicity. It is only an ornament and contrast to the great masses of stone, not the main beauty of the church. Chartres, in fact, is altogether a stone building with windows, not walls, of glass ; and it is the last of the French Gothic cathedrals which can be so described. Yet it has all the Gothic richness and science and expressive power ; and in this combination of qualities it is unrivalled.

Amiens

The Cathedral at Amiens has been called the Parthenon of French Gothic, and all circumstances, except one, conspired to make it that. It was begun in 1220, just when the French builders had attained to complete mastery, when they knew exactly what they wanted to do, and could do it. The older church had been utterly destroyed by fire, and there was no lack of money or energy. So the work was continued, until in 1288 the whole building was complete except the north transept, the two towers, and the *flèche*.

Amiens Cathedral lacks one quality necessary to make it the greatest of all Gothic churches—namely, genius. Compared with Chartres or Bourges it is academic rather than classic. It is far more rational, but far less inspired, than the splendid Folly at Beauvais. It has been studied and imitated in all its details by the architects of the Gothic revival; and one cannot but suspect that they have chosen it for imitation, just because it was not altogether beyond the reach of imitators. We cannot call it machine-made, like the imitative Gothic of Cologne; for it is full of beauty and spirit in its execution. But compared with other great churches it seems to have something mechanical in its conception. There is more science than art in the whole design, and the science seems to have overpowered the artistic invention. Here, for the first time in French Gothic, we feel that the designer has conceived his church rather as a vast piece of mechanism than as a building made of stones. The technical skill of the French builders has here become a little obtrusive, and they are losing that feeling for material, without which architecture and, indeed, all art fails in character and significance.

It is difficult to give examples of this lack of genius, since they are mostly negative. With all its symmetry and structural daring the design of the interior is wanting in accent. It does not make that beautiful pattern of light and shadow which seems accidental, but is to be found in all the greatest buildings of whatever style. At Chartres this pattern is broad and simple; at Beauvais it is intricate and dazzling. At Amiens it is neither. There every member of the structure looks admirable by itself, but they have no cumulative power, for they do not seem to have a common life. The details are often beautiful, but they have no exquisite propriety and would look just as well anywhere else. One can make this apology for the interior of Amiens, that it has lost most of its glass and that it has been remorselessly restored. But the interior of Notre Dame has also lost most of its glass, and has been far worse restored, yet one can still see that it is a work of genius, with an æsthetic as well as a structural problem solved in the whole design. At Amiens the structural problem is far more perfectly solved, but it seems almost to have overborne æsthetic considerations in the designer's mind. The church belongs to a great age, and it is the most complete work of that age. All that the age could give to it it has given: audacity of construction, beauty of ornament, grandeur of style. But only the designer could have given it the genius that would have made the whole expressive like a piece of music or a poem; and that, it seems, he had not got to give.

Besides this defect Amiens has been very thoroughly restored. How far the restoration was necessary we cannot pretend to say ; but considering the raptures that have been lavished upon the church, it is necessary to warn the visitor that when he sees it he is not looking upon an original masterpiece of Gothic art, but for the most part upon a fairly close and competent copy. Or rather it is like a picture for the most part carefully repainted. There are many people who suppose that an old building does not suffer from restoring so much as a picture from repainting. They understand the importance of execution in pictures, but not in architecture or architectural sculpture. They think that the beauty of architecture consists entirely in its design, that it is conceived in the architect's brain, drawn by him upon paper, and then mechanically carried out by the builders. This is not true of any great architecture, and least of all of Gothic. The design itself can be imitated, but not the designer's sense of material or the workman's power of handling it so as to express not only the designer's original idea, but each man's individual delight in his craft. Gothic architecture, as Ruskin pointed out long ago, is the art, not of individual men of genius, but of whole communities of workmen. It needed individual genius to produce a supreme masterpiece then as now ; but even genius could have done little without the great organizations that carried out and supplemented its conceptions. Those organizations no longer exist ; and, as far as Gothic is concerned, the executive capacity is altogether wanting.

The outside of Amiens, like the outside of Bourges, is the wrong side. Nearly all structural beauty is sacrificed to make the interior sublime. The *flèche* and the towers are mere makeshifts. Only the apse and the west front have an independent beauty of their own. The apse outside, as well as in, is inferior to the apse at Beauvais, but it looks secure. It rises from a mass of chapels with conical roofs, an arrangement which seems to give support to the thrust of the great flying buttresses. The whole design is very bold and scientific ; but here again the science seems to domineer over the poetry. The mechanism of it all is obvious ; and the ornament, as for instance the gables over the clerestory windows, has no exquisite propriety. But there is nothing mechanical about the west front. Though it has been considerably restored, it remains, at least in its lower stages, one of the glories of French Gothic, lucid and bold in design, and at the same time rich with multitudinous sculpture. The upper part, above the rose window, is inferior because the church is so lofty that it dwarfs the towers. In earlier and lower churches, such as Notre Dame, the western towers rise high above the roof. Here an attempt has been made to produce the same effect where it was impossible. The French builders always aimed at unity ; and in the façades of the fully-developed Gothic they made diverse and ingenious attempts to combine strong horizontal and vertical lines in a harmonious design. At Amiens they have failed altogether in the top storey, where the lines of the towers are vertical in a violent and chaotic contrast with the horizontal lines of the screen that masks the gable. But one does not notice this except at a distance; and no doubt the west front was meant to be seen close at hand.

The best of the sculpture is in the medallions under the figures, especially those of the north-west porch representing the labours of different months. The figure sculpture is inferior to that at Bourges and Chartres; and it has been much restored. But the finest invention at Amiens appears in the flying buttresses and the grotesques. Seen in detail the building is alive with gargoyles stretching out from the parapets, eagles perched upon them, and chimæras crouching above them and gazing down on the town far below. Never since the Renaissance has the French genius in art had perfectly free play. It has always been troubled by neo-classic ideas about beauty and the sublime and by violent reactions from them. After Ingres came Degas; but both could have worked together upon a great cathedral without incongruity or dispute.

The flying buttresses are, of course, engineering; but they are the noblest engineering possible, especially outside the nave, where a great row of them in simple half-arches is supported on the inner side by pillars, each three times the height of a man. Outside the choir they are more highly wrought with delicate mouldings and traceries; and they have a sharper spring from taller and slenderer pillars more detached from the wall. But in the attempt here to give them an architectural beauty they have lost the simple grandeur of their fellows of the nave. Already at Amiens we see the first threats of the decline of Gothic in a loss of articulation in structural members. Those flying buttresses with their mouldings all flowing into each other look elegant where they should rather look strong; and there is something inappropriate in the series of traceried openings that ornament them. When the French builders in their triumphant virtuosity began to play with masonry and to treat it as if it were cast in a mould rather than made up of stones piled one on the other, they also began to lose their sense of the logic of masonry, and their ornament lacked the exquisite propriety of earlier work. We may well believe that they welcomed the architecture of the Renaissance with so much eagerness because its strong articulation gave a new spur to their invention, which was weary of the fluid forms of the flamboyant. The French Gothic was most rational and most beautiful while it still remembered its romanesque origin. At Amiens it was just beginning to forget that and to lose itself in dreams of an impossible romance which changed it from architecture into a very wonderful kind of ornamental engineering.

Beauvais.

The largest church at Beauvais, after the Cathedral, is St. Étienne. This is a curious mixture, having a tall flamboyant choir and a much lower nave built nearly four centuries earlier and in the style that we should call Early Norman in England.

Inside and outside, this nave is almost as plain as a barn ; but outside between each of the clerestory windows there is a single pillar or shaft with a rudely-carved capital.

Speaking very generally and roughly, we may say that the southern tendency in architecture is horizontal and the northern vertical ; and these little shafts making faint vertical divisions upon the bare walls of the Romanesque nave of St. Étienne may be taken as an early sign of the northern vertical tendency that was to change Romanesque into Gothic, setting their structural problem to all the great French builders of a later time. It was a problem that could not be solved because it grew more exacting with every new achievement. For the vertical tendency is in flat opposition to the nature of things. In any long building, such as a northern church, we should expect the lines to be horizontal. Only in a tower would they naturally be vertical, and a tower itself is a kind of rebellion against the attraction of gravity. But the French Gothic builders tended to conceive the whole church as if it were a tower ; and, carrying out this tendency with the French passion for logic, they could only end in the disaster of Beauvais.

The choir of Beauvais Cathedral is the climax and the splendid failure of French Gothic. The Gothic lasted for two centuries more, but it was defeated at Beauvais ; and Beauvais explains why it never became a stable style and was at last violently superseded by the southern architecture of the Renaissance. The failure was not artistic so much as practical ; and architecture is the most practical of all arts. It is waste of time to write a play that cannot be acted ; but it is sheer madness to attempt a building that cannot be built ; and Beauvais Cathedral could not be built. The choir was begun in the middle of the 13th century and was meant to surpass all churches in the world. After Amiens the builders were tempted on to Beauvais ; and there a choir was built higher than any in the world and, with the slenderest supports, the longest windows that ever were seen. It was finished in less than thirty years, and twelve years afterwards the vault fell in, making a ruin of the church. Between 1500 and 1548 the transepts were built ; and then, instead of continuing the nave, the architect, Jean Vast, put a flèche over the crossing higher than the highest of the Pyramids. This was the time of the High Renaissance, and this architect boasted that his spire was a greater wonder than Michelangelo's dome at St. Peter's. So we may regard it as the last defiance of the dying architecture of the north against the triumphant architecture of the south. But the Dome of St. Peter's remains ; the spire of Beauvais fell in five years after it was built.

Chartres and Bourges are the works of a great age of art ; and they make one happy with the sense that many men worked happily upon them united in one noble and rational purpose. But Beauvais has in it the strain and unrest of a single mind rebelling against circumstance and eager to express itself at all costs. This spirit, though found in the work of some of the greatest artists, is dangerous to the health of all art ; in architecture the most social and practical of all arts, it is likely to be fatal. But it has never, perhaps, been heroically expressed in architecture, except at Beauvais ; for no architecture has aimed so fiercely at expression as the French Gothic. The fantasies of the Baroque are mere fantasies, and connected with no structural problem. In French Gothic, up to the building of Beauvais, the structural problem is the problem of expression—and the structural impossibility of Beauvais expresses an impossible state of mind, a passion that has become unreasonable, a desire for a beauty that is neither of earth nor of Heaven.

The French by the middle of the 13th century were masons so accomplished that they could play with stone. They were no longer kept within bonds by the difficulty of their material ; and they thought of a church, not as a building made up of stones piled one upon another, but as a work of pure expression, like a piece of music or sculpture. Thus Beauvais is an attempt to turn architecture into absolute art ; and it failed because architecture cannot be an absolute art, because it has material as well as technical limitations. But the wonder is that it should remain so beautiful ; that, being so exclusively and extravagantly poetical, it should yet be free from all bombast and vulgarity. As architecture it is a failure, not only because it could not be finished, but because it looks as if it could not endure. But with all its insecurity and incompleteness it is sublime. Inside one forgets even the insecurity ; for, like all French interiors, it is a magnificent illusion, and the most magnificent of all of them. Nowhere has a geometrical pattern of window-tracery been so perfectly fitted to the whole design of an apse. Nowhere have triforium and clerestory been so delicately combined and yet divided. The main shafts that rise between the windows are here both bolder and finer than at Amiens. The detail is more exquisite and yet more perfectly subordinated. In fact the interior of the choir is a perfect combination of science and beauty. It seems to achieve the impossible, as if it were a geometrical problem expressed in poetry. There is nothing but its fragmentary state to tell us that the impossible could not be achieved.

Outside, of course, the failure is evident. But it seems a failure noble and pathetic rather than arrogant. We feel, after all, that the designer of the choir was attempting an impossible feat of expression, not of ostentation. Again, the apse is more beautiful than the apse of Amiens, and the roof looks lighter because the balustrade round it is better managed. There are meaningless gables above the clerestory windows at Amiens that make a mere confusion of stonework. At Beauvais all the detail is both simpler and more exquisite. The buttresses and the windows are enormously long and thin. It has been said that the whole church looks as if it were standing upon tiptoe. But this is unfair. There is restlessness and strain ; but they are the restlessness and strain of genius overtaxed by the task of expression, not of mere display. The great southern façade is an overwhelming work, covered with intricacies of carving which are certainly not rational, but which look neither vulgar nor absurd. It has a kind of Babylonian grandeur and seems to be the work of a people far more remote from us than the designers of Chartres or Notre Dame. But But that is the impression made by the whole of Beauvais Cathedral. There is no connexion whatever between it and the modern world. It is a monument of momentary and extravagant energy that led nowhere and exhausted itself in fruitless effort. But, because it expresses that energy and all those overweening dreams, it is beautiful with a strange irrational beauty, and pathetic like a story of mistaken enterprise and wasted heroism.

Protection of Structural Ironwork.

In the course of a paper read before the Derby Society of Engineers, Mr. L. Archbutt, F.I.C., after dealing in detail with the question of corrosion and its prevention, expressed the view that for structures exposed to the atmosphere, by far the most widely adopted and convenient method of protection is by painting. Paints for ironwork may be divided into two classes : (1) varnishes, containing no pigment, generally solutions of bitumen, coal tar pitch, stearine pitch or wool pitch in tar oils ; and (2) true paints, composed of a finely ground pigment suspended in a vehicle which is generally linseed oil. Of first importance is the preparation of the iron for the priming coat. He referred to new ironwork, and not work which has already been painted. The sooner the iron receives its priming coat the better, and the greater the care and attention bestowed upon this priming coat the better will be the result for ever after. This is, perhaps, the reason why the stencil marks upon girders and such like are frequently cited as testimony to the value of white lead. They are put on while the girder is new, even hot, and quite dry, and they can be still found underneath the subsequently applied paint when it flakes off or is scraped off for re-painting. The iron for the priming coat should be quite dry, preferably even warm, so as to ensure dryness, and free from every trace of rust. Some engineers allow the iron to rust in order to remove mill-scale, but it is safer to remove the mill-scale by sand-blasting or wire brushes rather than allow rusting to commence. Rusting involves pitting, and unless the rust is scraped out of the pits down to the bare metal—a difficult and expensive process—rusting will go on underneath the paint. In experiments conducted with a great many well-known paints and varnishes he has found nothing better for the priming coat than genuine red oxide of lead—"red lead"—and genuine boiled linseed oil. The lead and oil should be ground together in a mill—not merely mixed by stirring—and should be of such consistency that when painted upon a vertical surface the paint will not run down. This, of course, means a fairly thick paint, and one that requires the expenditure of a liberal amount of "elbow grease" in its application. For it needs to be well spread with a good brush, not merely daubed on, but well worked into the corners and crevices, and not too thickly. He would employ the best workmen in putting on this priming coat, working under rigid inspection, and allow three or four days for the paint to thoroughly dry. The contractor's men can then come along and put on the subsequent coats, which can be of any desired color and almost anybody's "anti-corrosive paint." The priming coat should contain no drier—it is not needed—and no turpentine or other spirit—nothing but genuine red lead and genuine boiled linseed oil.

The so-called "drying" of linseed oil is, of course, a misnomer. The oil does not dry in the sense that a water paint dries—by evaporation of water; linseed oil dries by absorption of oxygen, which converts the fluid oil into a solid elastic skin of oxidized oil, and it is not desirable that any turpentine or other volatile spirit should be present which would evaporate and impoverish the skin. He is not a believer in tar varnishes for exposed ironwork. They all tend to harden and become brittle; at least this is my experience of such as I have tried. Neither has he yet found any oil to take the place of linseed oil. There are, of course, many other drying oils, and a very few, such as poppy and hempseed oils, can be used for painting, but at the present time suitable oils of this class are not available commercially, though they, no doubt, find their way into linseed oil as adulterants.

In places where water lodges, such as the bottom flanges of the girders of bridges, there is probably no better protective than Portland cement, with which the hollow spaces can be filled, as recommended by Herriott, but if used as a wash, Portland cement lacks adhesive power, and flakes off. In damp situations, therefore, such as the undersides of railway bridges, protection by painting becomes more difficult, and it is especially in such places that a good priming coat on the new material will repay all the trouble spent over it.

One of the most successful methods for the preservation of underground iron was patented many years ago by the late Dr. Augus Smith. In this process, as described by the author in his specification, coaltar is boiled until all the water, the ammoniacal liquor, and the lighter oils are expelled, and the prepared tar is applied to the cast iron fresh from the mould. The process was invented for the preservation of water pipes. The pipes are taken immediately they have been cast, before they have had an opportunity of rusting or acquiring any moisture, and after fettling they are put into a stove and brought to a temperature of 300° Fahr. They are then lowered in a perpendicular position into the prepared tar heated to the same temperature, and left there for a sufficient time for the hot and fluid tar to thoroughly soak into the pores of the metal, then lifted out and allowed to drain. This process is carried out at all the large iron works in this neighbourhood where pipe-making is carried on.

Royal Sanitary Institute Congress, York.

REPORT OF THE SOCIETY'S DELEGATES, MR. W. R. BRAITHWAITE, LEEDS, AND MR. FRED T. PENTY, YORK.

The twenty-seventh Congress of the Royal Sanitary Institute was held from July 29th to August 3rd, in York, under the presidency of His Grace the Lord Archbishop of York.

The proceedings were formally opened by Prince Arthur of Connaught, in the Exhibition Buildings, the Lord Mayor of York being in the chair. After the ceremony a tour of inspection of the exhibition was made. The exhibits comprised all departments of public health work, including models of large appliances for town water supply and drainage, measures for prevention of diseases, especially tuberculosis, sanitary fittings and all descriptions of apparatus for cooking, heating and cleaning.

In the evening the Archbishop of York delivered his inaugural address in the course of which he remarked that it always seemed to him a great misfortune that the poor were not enlisted in the service of public health. It was idle to deny that there was much to be done in the way of sanitary reform, especially in regard to the all important question of the housing of the people. It was not enough to destroy slums, they must prevent the creation of them.

Subsequently Conferences of Municipal representatives, Engineers, and Surveyors, Sanitary Inspectors and Medical Officers of health were held, and also excursions to places of interest.

CONFERENCE OF ENGINEERS AND SURVEYORS.—Mr. A. W. Greatorex, M.INST.C.E. (Member), Borough Engineer and Surveyor of West Bromwich, in his presidential address to the conference of Engineers and Surveyors said, that to appreciate to some extent the advance in Sanitary Science it was desirable to compare the past with the present, and to deduce therefrom in what direction they might expect improvements and reform. The process of evolution from the open drain to the well ventilated sanitary drain of to-day was little short of a revolution, but vast as the improvements had been, they were still far from perfection in this branch.

In the matter of sanitary conveniences, the evolution of the pail to the fully developed modern pedestal water closet had been great, but in this appliance perfection had not been attained. The domestic bath was now considered a necessity, but even as late as the middle of the nineteenth century fixed domestic baths were a rarity in the residences of the aristocracy. A generation had not elapsed since the force of public opinion was directed to the damages to public health by the pollution of the rivers and water courses of the country. The pollution of rivers was now mainly due to manufacturing refuse which could be to a very great extent avoided by previous treatment and no effort should be relaxed to prevent streams from being employed to carry off sewage or manufacturing refuse.

The chief subjects of interest to architects were the following :—*

HOUSING AND TOWN PLANNING.—A discussion on Housing and Town Planning Progress was opened by Mr. H. Gilbert Whyatt, A.M.INST.C.E., Grimsby, in the course of which he said that he had attended many conferences on Housing and Town Planning, and the outstanding feature had invariably been the remarkable difference in local circumstances.

From the point of view of the Local Authority, town planning was in theory the only thing. But if, after laying down a scheme the land was not taken by builders and covered with model houses, but houses were erected on other estates with less salubrious surroundings all the labour expended on the scheme was thrown away. The whole question was one of finance, if any progress was to be made.

It was for Local Authorities when preparing town planning schemes to consider what relaxations they could consent to in return for healthier surroundings. After dealing with Bye-laws and buildings, Mr. Whyatt pointed out that if there were no relaxation of bye-laws and if landowners would agree to lay out their estates on town planning lines, there would be no need to lay schemes before the Local Government Board.

It must be remembered that the dreams of the idealist must be transformed by common sense into something practical.

VENTILATION OF CHURCHES.—In the absence of Mr. J. Osborne Smith, F.R.I.B.A. (London), Mr. A. Saxon Snell, F.R.I.B.A. (London), submitted a summary of the latter gentleman's paper on the subject of Ventilation and Warming of Churches.

The requirements stated by the essayist necessary to make the interior of churches healthy may be briefly stated :—Ample means of cross ventilation ; Inlets of fresh air as short as possible and capable of being cleaned out readily ; Adequate means of warming incoming air ; Warmth just below open roof, clerestories to tall windows to prevent down draughts ; Jointless solid floors which can be readily kept clean ; Seats and fittings which do not obstruct the passage of light and air or hinder the cleaning of floors ; Preventing the inrush of cold window currents from windows, by fixing hopper lights.

EXPERIMENTAL SCHOOLS.—" Three Northumberland Examples " were quoted by Mr. G. Topham Forrest, Education Architect Northumberland County Council. In the course of his remarks he cited a first example of a new school at Barrington Colliery, about 16 miles from Newcastle-on-Tyne. The superstructure is of wood secured to wrot-iron bolts and plates, embedded in brick foundations, the latter being re-inforced in two alternate course with three rows of best galvanized mild steel wire mesh. The

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*See *Journal*, Vol. V., No. 59, September, 1912.

outside framing is formed of 4 in. by 3 in. posts covered with layers of felt and 1 in. G & T boarding fixed horizontally on the outside and on the inside match boarding covered with asbestos sheeting to form a dado. Above this dado the asbestos sheeting is fixed on to the 4 in. by 3 in. posts. The ceilings are formed of asbestos sheeting and roof covered with Eternit slates laid on spars covered in the first instance with felt. This school worked out at £6 10*s.* 0*d.* a school place.

Another experimental building was the new school erected in the village of Hartley, about ten miles from Newcastle-on-Tyne. The school was a timber framed building with 2 in. Fram slab casing, ferro-concrete foundations, re-inforced with ⅜ in. steel rods and expanded metal 4½ in. by 3 in. framing fixed to foundation with bolts and 7 in. by 4 in. corner posts. The 2 in. Fram slabs are fixed to framing on outside rendered over with cement mortared to an even thickness and rough cast with a mixture of slag and pea gravel. One inch internal "Fram" slabs nailed to framing, floated and skimmed with washed hair lime and putty and finished with putty and plaster throughout. A 3 ft. 6 in. dado is formed of Portland cement back and finished with Keene's cement, face trowelled and smooth. The roofs were boarded with clean redwood grooved and tongued boarding with asbestos tiles laid diagonally and fixed with copper rivets. The cost of this school was about 5½*d.* per cubic foot designed for 300 scholars, and the price per scholar was £6 16*s.* 6*d.*, but to this price must be added £525 for cost of out-houses and boundary walls of brick and stone, and tar macadam playground and drainage.

Another example was a school at Choppington, a loan for which was granted for 30 years. There are two departments, infants and mixed, each being a separate building, the former accommodates 168 children, and the latter 400.

The mixed department was a school built in three independent sections, with foundations and walls re-inforced, the foundations on the Hennebique system and the walls of the superstructure with wire mesh. The school was built with a 9 in. cavity wall consisting of a 4½ in. outer wall, 1½ in. cavity and 3 in. brick on edge inside. The classrooms had a 9 in. cavity wall consisting of two brick on edge walls with 3 in. cavity and partition walls 3 in. brick on edge re-inforced. The cost of this school worked out at £11 16*s.* 0*d.* per school place. All the walls were built in cement mortar (2 to 1). Mr. Forrest did not advocate the cheaper school movement or agree with many of the principles laid down in the report of the Departmental Committee, but he felt that the demand for schools similar to those referred to exists in mining and other industrial centres and it was highly desirable that local education authorities should make enquiries as to the methods best adapted to meet the needs of their own districts.

Professional Ethics.

The agitation now exercising the Architectural Profession at Home regarding a code of ethics threatens, we much fear, to accomplish too much. Not to say that there should not be certain offences which must be defined by code as unprofessional, but we have a fear that the inclusion of too many in such a code will have an insalutary effect on the architectural conscience, just as bringing up a child under too many restrictions often results in robbing him of a natural sense of responsibility, and warps his own judgment as to what plainly constitute right and wrong. Such a person falls an easy prey to temptation and, moreover, gives any natural ingenuity he may possess an impetus in the direction of finding out what he may do in order to circumvent the code. With a voluminous code will arise a tendency to judge a man only in accordance with its articles just as a magistrate condemns or acquits a man according as he has or has not violated the strictly laid down laws of the penal code. The magistrate will tell you himself, as he has done on more than one occasion, that he is not on the bench for the purpose of administering justice, but the law. Accordingly, many an offender escapes who has done a palpable wrong but has kept outside the meshes of the law. In the same way, should the architectural bodies attempt too much codifying they might be placed in the position of the magistrate on the bench. Better for them to make a few salient regulations for their own guidance—that is, for the guidance of the selected few who will constitute the bench, while they give the Profession at large to understand that they possess the right, by constitution, to arraign at their bar any who *in their judgment* are pursuing a course not in accordance with the dignity of the Profession. It seems necessary in the first place to come to a decision as to which of the architectural bodies in the kingdom are of sufficient standing to contribute one, or more, members to an ethical council ; it then follows logically that every individual calling himself an architect should be compelled to belong to one or other of these bodies, or consider himself an unrecognized practitioner. From each of these architectural bodies a strong council should then be formed, each body electing its own representative or representatives, the number to be regulated according to its strength and professional standing.* In the hands of a council so constituted, which would presumably represent the pick of the Profession, might safely be left all the jurisdiction ethics demand. The members would have only a few leading rules for their guidance, their own moral sense and good judgment would supply all the rest that would be demanded to determine whether a man has offended against ethics or has not. To this council full powers ought to be given, and from its decisions there should be no appeal. Nor should individual Societies, once such a council has been formed, retain to themselves the right of sitting in judgment on one of their own body. Every offender against the ethics of the Profession must go up to the one bar of judgment and stand or fall by its decision. We cannot help thinking that such a mode of deciding will have a farther reaching effect than the action of so many men appointed just to interpret an elaborately drawn-up code. Before a bar such as this there will be no quibbling, each offender will understand that he is being tried not by a code which may be quibbled with but by a sense of right or wrong in the abstract as it is in the minds of his judges. All in the Profession who may be tempted to sail close to the wind in their transactions will have a wholesome fear that they may not escape even when for such a venality as this they may have to answer to a tribunal not bound by the mere phraseology of a code but by a wider horizon which includes what is bad form just as much as it includes what is palpable misdemeanour. A court of ethics, in short, should be constituted on the lines of what is known as a Court of Honour, *i.e.*, it should be composed of a body of honourable men who will not need to open a book to tell them whether this or that man has sinned. Such a tribunal will, we think, have more terrors for the evil-doer than any other.—*Indian Engineering.*

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* [The Secretary of The Society of Architects in opening a discussion on professional ethics in April last, suggested the formation of a Board of Professional Control, representing every Architectural Society in the kingdom, to be vested with such powers as are here indicated. See No. 55, Vol. V. of *Journal*, page 266 *ante*.—Ed.]

The Philistine and the Podium.

In the early stages of the controversy regarding the proposed alteration in the Podium of St. George's Hall, Liverpool, The Society of Architects memorialized the Liverpool Corporation deprecating any interference with the Podium and suggesting that in any case an equestrian statue would be out of place in the position proposed.

The latest protest came from the Liverpool Architectural Society in a letter to the *Times* a day before the matter came up for final consideration by the Liverpool Corporation, who, however, adopted the recommendation of their Committee, fifty-three voting for the proposal to carry out the scheme originally suggested, and forty against it.

The Philistines have therefore prevailed, but even from their point of view there are certain utilitarian objections to the scheme, to which prominence is given in the *Liverpool Daily Post* of September 4th.

In the course of the article, the writer says that on the æsthetic aspect of this pressing question the architects of Liverpool are competent to speak, and have spoken through their chairman, Mr. Hartwell Grayson. They are unanimous in condemning the Finance Committee's proposals to convert the so-called Podium of St. George's Hall into a Flight of Steps, and to place an equestrian statue of the late King Edward at the top.

To a Philistine, the architectural beauties of the Podium, whatever it may mean, do not appeal, nor is he carried out of himself into ecstasies of admiration over the imposing grandeur of St. George's Hall. It may be one of the three finest buildings in the United Kingdom; if it is, The Society of Architects had best bestir themselves and give the United Kingdom something better. To a mundane and utilitarian mind the naked brick facade of the new Adelphi Hotel and the strong outlines of the grain warehouses at the south-end of the docks appeal with much more force.

To build a Flight of Steps for the sole apparent purpose of placing an equestrian statue at the top, the statue of a King whose chief characteristic was strong common sense, strikes a Philistine as essentially absurd. The site seems more appropriate for the statue of a trick rider in a travelling circus. There would be some reason for it then. But of a King! There can be no good reason.

The proposition may be shortly put. Horses in a state of nature don't climb steps any more than pigs in a state of nature fly. Then why put an equestrian statue on the top of a flight of steps?

Of the artistic merits of the Podium the Philistines are not enamoured, but as Philistines they are quite capable of seeing that it makes an admirable and most efficient buttress for the south-west end of St. George's Hall, and that there is considerable danger of the whole facade glissading down the slope into St. John's Market if it is rashly tampered with. What the exact pressure to the square foot of St. George's Hall on the Podium is requires expert calculation, but one Philistine is prepared to bet that it is at least a hundred times as great as the pressure on the cheap modern furniture-style of stonework that so gracefully adorns St. John's Churchyard. The thing is worth considering. If the city fathers will go to their stoneyard and make a close inspection, they will find gaps and cracks and crannies in the stonework, and they can also see, if they look carefully, that St. George's Hall requires all the support it gets from the Podium. If they cannot see it for themselves, they had better get an engineer to calculate the pressure, and to state the odds for or against subsidence if the steps are built.

The Liverpool Architectural Society have, it is understood, decided to call a public meeting to organize opposition to the Corporation scheme. It is contended that the alterations will injure the appearance of St. George's Hall, and the opposition is being organized with a view to engaging counsel to represent the objectors at the forthcoming Local Government Board inquiry into the matter.

We suggest that the objectors might take a hint from the Philistines and be prepared if possible to supplement their objections on æsthetic grounds by evidence on practical grounds, shewing the probable or possible effect which it is suggested the alterations would have on the existing building, in rendering it unsafe.

South African News.

Prospects of the Proposed Union Bill.

The African Architect publishes a report of a joint meeting of the two Transvaal bodies of Architects held in Johannesburg in July last for the purpose of hearing the views of the President of Cape Institute of Architects, Mr. Reid, on the subject of Registration.

In the course of his remarks Mr. Reid said, in the first place, regarding the Registration Act they desired to secure through the Union Parliament, they had an object lesson of how not to do it in the recent proceedings at the meeting of the Royal Institute and The Society of Architects in London. It seemed clear that professional unity would not exist in England until the two bodies above referred to were legally combined, and it seemed equally certain that such a compact would not be secured until those who had assumed the roles of "wreckers" were put in their proper places by the members of both bodies. At the last annual dinner of The Society of Architects, the President, Mr. George E. Bond, left no doubt in the minds of his audience that a few irresponsible egotists, whose vanity had not been gratified by undue prominence being given to them in the movement, revenged themselves by taking advantage of an irregularity to bar the progress of the scheme. He hoped that they in South Africa had larger minds and more worthy motives, and that when differences of opinion arose, the minority would submit to the majority with a good grace, feeling that nothing mean or unprincipled could cause the little disagreement that might have arisen. They all had the same object in view, which was to bring every member of the profession under properly constituted control and to secure justice for the public; two factors that should take precedence of all matters of detail. The Cape and Natal Institutes of Architects were somewhat exercised at the differences that they understood had arisen in the ranks of their professional brethren in the Transvaal Province, and desired to ascertain whether opposition to the Bill was likely to be raised by any of the sister bodies or professions, by Government, or by individuals, and, if so, upon what grounds.

A doubt had also arisen as to how far Government and local bodies would bind themselves to employ only registered architects, and, there was the matter of the supervision of the education of architectural students in that country. This was the only matter that they of the sister Provinces had heard mentioned as a dividing line in the Transvaal. They understood that a section of the members of the Association of Transvaal Architects objected to the education of architectural students or the supervision of apprentices forming one of the functions of the proposed registered body. On the other hand, they gathered that some contended that it was their clear duty to the public and to the profession to prepare the coming generation of South

African architects to face their rivals in the world generally, and in South Africa in particular. How that was to be accomplished without participating in the educational curriculum of those destined for their profession was not apparent to everybody. He hoped that members who may differ from those who looked upon education as one of the leading duties of a professional governing body would waive their active opposition in view of the opinions of the Royal Institute and of The Society of Architects of London. At all events, it seemed to him that any contentious details of that portion of their Bill could be relegated to the by-laws rather than be allowed to wreck the Bill as a whole.

With regard to the presentation of the Registration Bill to the House of Assembly, the pressure of Government business was such as to render the task hopeless for some time to come, but as it was not a "money Bill," and in view of the public interests suffering by the delay, and, further, considering the precedent offered by the passing of the Act by the Transvaal Legislature, it was quite regular, in his opinion, for an application to be made to the Senate, who would probably appoint a Select Committee to deal with it, and, if the three Provincial Institutes united in soliciting the assistance of their Senators, he believed the Bill could be pushed through next session.

Regarding the financial side of the Bill, the balance in hand as subscribed by the Cape and Natal Institutes was over £100, but against that stood their legal commitments past and future, the amount of which could not be estimated until they knew just what their Transvaal friends proposed to do and leave them to do.

Though the joint conference of delegates held last year in Cape Town resolved that the Cape Institute should be appointed to draft and present the Bill, it was believed that a section in the Transvaal desired to transfer that honour to Johannesburg. It had been suggested that the expense would be far less if the work was done in Cape Town, and a doubt had arisen as to the wisdom of one body dealing with the Government in the initial stages and another with the House of Assembly when the Bill was presented. It is felt by some that the objections and difficulties, if any, should be dealt with by the same body.

From the discussion which followed it seems that the Transvaal Registration Act does not provide for raising or allocating sums of money for further similar legislation, for which the various bodies interested must be responsible and as they in their turn have apparently very limited powers if any in this direction, a fund will have to be specially raised by the members concerned, and that they will not go into the question until they have settled certain differences which appear to exist between them, not only in points of details, but also on questions of principle.

The main point at issue as regards the proposed Union Bill seems to be as to whether it shall include educational powers or be confined to the machinery for examination and registration, and the settlement of questions of professional practice and conduct.

It is stated that the Branch of the Society at Johannesburg are opposed to any matters relative to education being included in the Bill, not because they object to the Statutory education of Architects, but because they consider that a Registration Bill which concerns itself with purely professional matters will have a much greater chance of becoming law than one which goes beyond these.

It seems probable that more time will be necessary for further discussion on the clauses of the proposed Bill by interested parties, so as to get the draft Bill itself settled before further action is taken in regard to the procedure to be adopted in promoting the Bill in the Legislature.

It is evident, as we have before pointed out, that the pressure of Government business in South Africa is beginning to render it very difficult to get a private Bill considered, and this is a difficulty which will increase every day, and also that the growth of the South African Associations of Architects is tending to some extent to divide the profession on certain points. It therefore behoves the Union Architects to make up their minds exactly what they want and go for it for all they are worth as a united body, putting aside, as Mr. Reid suggests, any personal feelings and thinking only of what is best in the public interest, and in the future interest of architecture and of the profession in South Africa.

If the opportunity which now presents itself for a Union Bill is frittered away by any kind of friction or misunderstanding on the part of those interested, it means that every day will see the attainment of the object more distant and more difficult.

The attitude of the Quantity Surveyors to the Registration Bill may be gathered from the remarks of Mr. Francis Black, who in proposing the toast of the "Transvaal Institute of Architects," at the Annual Dinner of the South African Institute of Quantity Surveyors is stated to have said, that with regard to the Architects' Registration Act, as surveyors they had not the slightest objection, but they as surveyors would most strongly object should, either in the Bill or in the by-laws, there be the slightest reference to their profession which might be construed as giving the architect the right to control them. Alternatively, they would welcome a Bill dealing jointly with their interests. They maintained that a quantity surveyor was a separate entity to the architect, and any Bill on these lines should be termed the Architects and Quantity Surveyors Bill.

The columns of the *Journal* are intended to be a medium of communication between members with a view to the dissemination of items of general professional interest to the Society, and we welcome a suggestion which has been received that a further endeavour should be made to secure the co-operation of members to this end.

The *Journal* should also form a useful link between the Society and its Hon. Secretaries, the need for which is particularly felt in the case of Colonial members. More especially is this desirable in the case of South Africa where the Society has a very active Branch which is doing practical work in extending the interest of the Society and watching over professional interests generally in that part of the world.

The Honorary Secretary of the Branch, Mr. D. Ivor Lewis, P.O. Box 667, Johannesburg, has kindly consented to act as the medium of communication between the South African members and the Society, and to keep us informed periodically of any matters of interest, and we invite members of the Branch to send to Mr. Ivor Lewis any items of news in which they are personally concerned, or which they think might be usefully recorded.

By this means we hope to be able to embody in the *Journal* regular contributions of news from South Africa on professional matters, which cannot fail to be of mutual interest and advantage. This however cannot be done without the active co-operation of the members concerned, and as they have proved themselves keen workers in regard to professional questions generally in South Africa, we have no doubt that this proposal for an additional connecting link between the Branch and the Parent Society will meet with their approval and support, and we shall await with interest the development of the idea.

A further suggestion has been made as to the desirability of the Branch appointing Hon. Corresponding members in such centres as Capetown, Port Elizabeth, and Durban, in order to further the interest of the Society, and we feel sure there are members who would gladly accept these positions and co-operate with the Branch in the manner indicated. We shall hope in due course to refer to this matter in more detail and to give the names of those who will act in the capacity referred to.

It is satisfactory to find that the number of applications for membership submitted by the Branch continue to increase, and that among the candidates are several architects who take a leading part in the administration of the affairs of the South African architectural bodies of which they are members. This increase is evidence of the facts that distance need be no deterrent where the aim and work of a Society enlist the sympathy and approval of those concerned, and that the object of joining a Society is not necessarily for what one can get out of it, but rather for what one can put into it. This is a point of view which is sometimes overlooked by those at a distance, who doubt the necessity or desirability of joining any Society unless they can personally enjoy all its privileges. This if carried to its logical conclusion would result in the gradual extinction of every professional society.

An opportunity will shortly be afforded to those who desire to take the qualifying examination for membership, which is to be held in Johannesburg and other centres on December, 17th, 18th or 19th, particulars of which can be obtained of the Hon. Secretary of the Branch.

We are glad to observe the continued activity of the Branch in regard to the proposed Union Registration Bill and the steps they are taking to keep their opinion on the matter to the front.

In regard to Architectural Competitions, the Branch, following the precedent set by the parent Society, have approved of the conditions adopted by the R.I.B.A., which they recommend should be adhered to by the members.

Everything tends to show that the Branch is working towards that unity in the profession which is essential to the furtherance of the best interests of the art of architecture and the interests of those who practice it.

National Insurance Act, 1911.

Architects and Surveyors' Approved Society.

This Society has been approved and is open to draughtsmen, clerks and typists, etc. employed in the offices of Architects and Surveyors, provided the candidates are between the ages of sixteen and seventy, and have an income of not more than £160 per annum. Pupils who receive a small weekly wage from their Employers must be insured, but unpaid pupils need not be.

Deposit contributors who do not belong to any approved Society can only draw on the money in their account at the Post Office, while members of approved Societies receive the following benefits in return for the same contribution as the Deposit contributors : (1) Doctor and medicine both free when needed ; (2) Treatment for consumption ; (3) Sick pay of 10*s.* per week for six months beginning on the 4th day and disablement benefit of 5*s.* per week so long as necessary ; (4) Maternity benefit of 30*s.* ; (5) When the funds of the Society permit, additional benefits will be offered and in the case of those employed in offices where the usual pay is given during illness, it is hoped to arrange for alternative benefits other than those provided under (1) and (3) if the members so desire.

Persons whose incomes rise above the £160 per annum limit cannot continue insuring under the Act unless they have been a member of an Approved Society for five years under the Act in which case they can continue as voluntary contributors but must pay both the Employers' and the Employees' contributions.

The question of providing additional benefits in return for additional contributions has not yet been decided, but no doubt if sufficient numbers desire it, arrangements will be made accordingly.

The Society reserves to itself the right to require a medical certificate in special cases.

There is no entrance fee and the preliminary expenses of circularizing will not be borne by the Society, so that it will not be saddled with a heavy initial expenditure.

It is apparent that a Society entirely confined to professional men and women in safe and healthy employments, with large numbers yearly passing beyond the insurance limit (whose previous contributions may remain in the funds of the Society) should be in a position to offer better benefits than Societies of mixed membership.

It is for these reasons that such a Society seems desirable in the interest of those employed in Architects and Surveyors' offices.

Persons who are already insured in an approved Society can before October 15th transfer by giving notice to the Society in writing that they wish to do so. After that date they will have to show a good reason for doing so. Probably the fact of wishing to join a "professional Society" *will* be considered a sufficient one.

Those who sign the form already issued signifying their desire to transfer to the "Architects and Surveyors' Approved Society" will be notified in due course what steps to take.

Anyone who is in sympathy with the Society but who does not come under the scope of the Act, may become an Honorary Member at a subscription of 10*s.* 6*d.* per annum or by virtue of one donation of not less than £2. Such contributions will be devoted to defraying a portion of the necessary administrative expenses, thereby increasing the benefits available to the members.

It will greatly facilitate the working of the Society if all applications or enquiries are sent in at once to the Honorary Secretary, at 18, Tufton Street, Westminster, S.W.

Union is Strength.

Missouri, the land of "show me," has given a demonstration of what architects can do in the way of regulating competitions that will be beneficial to the profession and public everywhere. Historically, the State of Missouri built a State House some twenty-five years ago. It appointed a commission, and this body sent out to architects a printed invitation. At that time there being, as to-day, a sentiment against improper competitions, the many faults of the programme were pointed out to the commission, with the result that it was withdrawn and one formed on lines satisfactory to the profession was substituted. A new State House is now projected, and the first experience forgotten, the commissioners issued a programme that was not only impossible from a professional standpoint, but pronounced illegal by the Attorney-General of the State. A second was evolved which observed all the legal requirements, but this also was objectionable to architects. The chapters of the American Institute of Architects of Kansas City and also St. Louis protested and asked the commission to make proper changes, but in spite of these protests the programme was printed and issued. The rule of the American Institute of Architects in regard to competitions is similar to that of the Royal Architectural

Institute of Canada, and it is deemed unprofessional for any member to enter a competition the programme for which has not the approval of the Institute. The American Institute in effect has taken extreme measures in this regard, and at the last convention not only were the names of violators of the rule mentioned, but some were disciplined for so doing. It has thus become a fixed principle that the executive committee of the Institute and the committee on competitions approve of all programmes before it is permissible for any member to enter a competition. At this stage of the proceedings the Kansas City chapter, followed by that of St. Louis, passed formal resolutions of protest, and the standing committee on competitions of the Institute communicated with the commission, offering to assist in the revision of the programme. The resolution passed by the St. Louis chapter and which expressed the position of Institute members, was as follows: "Since the programme for the Missouri State Capital competition is at variance with good practice and custom, and with the recommendation contained in the code on competitions of the American Institute of Architects, and since this programme has not been approved by the sub-committee on competitions for this district, or by the standing committee on competitions, or by the executive board of the American Institute of Architects, this chapter shall consider it unprofessional and unethical for any of its members to enter this competition, and any members participating therein shall be subject to discipline by St. Louis chapter and the executive board of the American Institute of Architects." These protests of the chapters, backed by the active work of the Institute, convinced the commission that three-fourths of the well qualified architects in the United States would decline to compete under the terms offered, and a third programme has been issued containing all the requirements deemed necessary by the Institute. The result will be a double competition for a $3,500,000 building, the first ten selected in the preliminary trial being required to again compete, the winner to receive a commission at the Institute's required fee of six per cent., and the nine receiving one thousand dollars each. The significance of this is the apparent ability of architects to regulate competitions if the work is entered into energetically by the local architects supported by the full power of the national body. It is not venality, but ignorance of the requirements, and in public work often obstructing laws, that in most cases promotes the undesirable competition programme; and since this form of selecting an architect is a necessary evil and must be recognized, the more activity displayed by the profession in its regulation the better for the future of public architecture.—*Construction.*

The New Editor of "The Globe."

Mr. Charles Palmer who for many years has been on the Staff of the *Globe* Newspaper has recently been appointed Editor. It will be remembered that Mr. Palmer was associated with the Society as Joint Editor of the Journal during the seven years that it was published under the title of the *Architects' Magazine*.

Reviews.

Academy Architecture and Architectural Review, 1912, (Part 1). Edited by Alex. Koch.

The Forty-first Volume of this publication maintains its high reputation and usefulness, by placing before its readers in a compact form clear illustrations of many of the Exhibits in the Architectural Room of the Royal Academy during the season recently terminated, the majority of which on this occasion are of a domestic character, though a few represent public and ecclesiastical buildings. At the end of the Volume there are further illustrations of recently erected works, and between these two architectural sections appear a number of photographs of executed Sculptures. These are particularly fine, and show well how high is the level of Modern English Sculpture, and also how varied it is in technique and personal inspiration.

Fire Prevention and Fire Protection as applied to Building Construction. A Handbook of Theory and Practice by Joseph Kendall Freitag, B.S., C.E. London: Chapman & Hall, Ltd. 1912. 8vo., limp leather, gilt edges, pp. 1038. Price 17*s.* 6*d.*

Although this work is written for American readers there is much in it that is useful to English architects. The book is an epitome of the whole subject of fire losses and prevention. Fire protection as applied to buildings includes control of fire through construction, control by means of first-aid or departmental work, detection of fire by automatic means, and safety against exposure hazard. The best possible illustration of control by construction is furnished by those instances where fire has been confined, absolutely, to the compartment or unit of area within which it originated, and this without the knowledge of tenants or others. Fire-resisting construction should always be planned and carried out to approximate this ideal as nearly as may be possible. The control of fire through the employment of first-aid covers the use of water buckets, portable extinguishers, protective devices such as thermostats and sprinklers, automatic alarms, etc. Safety against exposure hazard involves protective measures against an immediately adjacent risk, such as entering through wall openings and roofs, the falling of burning floors and contents, influence of street widths, and open areas, influence of prevailing winds and fire brands, and adverse conditions of the weather or of the fire facilities at time of fire. The part most interesting to architects commences with Chapter IV., on Slow-burning or Mill Construction, which goes through the detail of factory construction with its safety from fire in view. In Part II. many serious fires are described and the construction of the buildings criticised. Chapter VII. deals with the materials of fire-resisting construction, and the unreliability of steel construction unless properly protected is duly pointed out. Part III. on planning and general design and Part IV. on fire-resisting construction occupy some 400 pages and deserve very careful study. Part V. on Special Structures and Features, covers theatres, schools, residences, factories, garages, etc., with many plans, sections and details accompanying the descriptions. Part VI. deals with auxiliary equipment and safeguards. Altogether this is the most important work on fire protection that has yet appeared, and although it contains such a mass of information it is a very portable book, well bound in limp leather, with rounded corners, and gilt edged.

The Fire Resistance of Concrete and Reinforced Concrete.*

In order to give some idea of how the British Fire Prevention Committee conduct their tests with building materials, the author gives some particulars of the general constitution of the Committee, the existing standards it works to in its floor tests which have special bearing on this question, and the arrangement of its testing station.

The purpose of the tests undertaken by the British Fire Prevention Committee is to obtain reliable data as to the exact fire resistance of the various materials and systems of construction used in building practice, and to give precise particulars regarding fire preventive, fire alarm, or fire extinguishing appliances.

Fire tests with materials, systems of construction and appliances used in ordinary practice and not subject to proprietary rights, are undertaken from time to time by the Executive, as the limited resources of the Committee permit, and those commercially interested in fire-resisting materials, systems of construction, or appliances, can apply for tests, subject to a scale of charges which varies according to the subject put forward for investigation and the preparations necessary, but whether the tests be with proprietary work or not, the actual skilled conduct and supervision of the tests, as also the preparation of the reports by the members, is undertaken voluntarily, no fees or out-of-pocket expenses being paid to the members of the Committee for such services. As a matter of fact the testing station would not exist were it not for the substantial sums provided towards its establishment and maintenance by some of the honorary officers of the Committee.

The testing operations of the Committee commenced in 1899, since when 180 different subjects have been under test, some of which have involved not only a fire test in the ordinary sense, but a series of protracted tests and investigations.

As the results of the earlier tests were beginning to be forgotten, it was suggested to the Executive of the British Fire Prevention Committee that some form of Summary of the testing operations was required, in a form easily accessible for reference, and it was decided to issue separate sets of tables dealing with particular subjects. The subjects to be dealt with first were: Fire-resisting Floors, Doors and Partitions.

Later, similar sets of tables will probably be issued in respect to other features of building construction and also in respect to fire appliances such as portable fire extinguishers.

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*Summary of a paper read by Mr. Edwin O. Sach, F.R.S.Ed. (Member), Chairman British Fire Prevention Committee, before the New York International Association for Testing Materials.

As far as the Floors, Doors and Partitions are concerned, it was decided to arrange the tables in accordance with the "Universal Standards of Fire Resistance," established at the International Fire Prevention Congress of London, held in 1903, which involved the following classification: "Full," "Partial" and "Temporary" Fire Resistance.

It was deemed advisable to show plainly if classification under these headings was obtained or not, the "object of test" as defined in the first instance indicating what classification was aspired to.

For the early tests of the Committee no definite standards existed, but a uniform practice was soon evolved. This was no easy matter, as the Committee were the pioneers of systematic fire testing in 1897, and no fire testing station solely devoted to this subject existed at the time of the establishment of the London institution.

The reasons for the classification adopted were that the Executive of the British Fire Prevention Committee having given their careful consideration to the common misuse of the term "fireproof," now indiscriminately and often most unsuitably applied to many building materials and systems of building construction in use in Great Britain, came to the conclusion that the avoidance of this term in general business, technical and legislative vocabularies was essential.

The Executive considered the term "fire-resisting" more applicable for general use, and that it more correctly described the varying qualities of different materials and systems of construction intended to resist the effect of fire for shorter or longer periods, at high or low temperatures, as the case may be, and they advocated the general adoption of this term in place of "fireproof."

Further, the Executive, realizing the great variations in the fire-resisting qualities and systems of construction, considered that all concerned should discriminate between the amount of protection obtainable or requisite for different classes of property. and between fire-resisting materials and systems of construction affording temporary, partial, and full protection against fire, and to classify building materials and systems of construction under these three headings. The exact and definite limit of these three classes is based on the experience obtained from numerous investigations and tests, combined with the experience obtained from actual fires, and after due consideration of the limitations of building practice and the question of cost.

The Executive's minimum requirements of fire resistance for building materials or systems of construction will be seen from the standard tables appended for: (I.) Fire-resisting floors and ceilings; (II.) Partitions; (III.) Doors; but they could be popularly summarised as follows: (*a*) That temporary protection implies resistance against fire for at least three-quarters of an hour; (*b*) Partial ditto, one hour and a half; (*c*) Full ditto, two hours and a half.

The conditions under this resistance should be obtainable, the actual minimum temperatures, thickness, questions of load, and the application of water is shown in the annexed tables.

It is desirable that these standards should become universal and common to all countries, and arrangements for this are in hand.

STANDARD TABLE FOR FIRE-RESISTING FLOORS AND CEILINGS.

CLASSIFICATION.	Sub-Class.	Duration of Test at Least.	Minimum Temperature.	Load per Superficial Foot Distributed. per square metre.	Minimum Superficial Area under Test.	Minimum Time for Application of Water under Pressure.
Temporary Protection	Class A	45 mins.	1500° F. (815·5° C)	Optional	100 sq. ft. (9·290 sq. m.)	2 mins.
	Class B	60 mins.	1500° F. (815·5° C)	Optional	200 sq. ft. (18·580 sq. m.)	2 mins.
Partial Protection ..	Class A	90 mins.	1800° F. (982·2° C)	112 lbs. (546·852 kg.)	100 sq. ft. (9·290 sq. m.)	2 mins.
	Class B	120 mins.	1800° F. (982·2° C)	168 lbs. (820·278 kg.)	200 sq. ft. (18·580 sq. m.)	2 mins.
Full Protection ..	Class A	150 mins.	1800° F. (982·2° C)	224 lbs. (1093·706 kg.)	100 sq. ft. (9·290 sq. m.)	2 mins.
	Class B	240 mins.	1800° F. (982·2° C)	280 lbs. (1367·130 kg.)	200 sq. ft. (18·580 sq. m.)	5 mins.

kg. = kilogramme.

This schedule has been found practical and equitable, and it has been generally adopted in the principal countries of the world, occasionally with some slight modifications, where independent and official fire tests have been under review. At New York, for instance, where the Columbia University Testing Plant conducted by Professor Ira Woolson accords somewhat with this Committee's idea of a suitable testing installation, and above all in its independent direction and form of report, the tests have the additional severity of the temperatures named, being "1,700 degrees on the average" in lieu of "the 1,800 degrees maximum," and the floors are reloaded after test with an additional load. These two features were not considered essential for this Committee's tests, but may help to remind those who think the Committee's tests for the "Full Protection" classification too severe, that yet severer tests are required elsewhere. The advocates of very severe tests base their demands on the hypothesis that on structures erected for test purposes greater care is exercised than would be the case in ordinary practice. This is true, but not to the same extent in England as in the United States; the general supervision of structures in course of execution in Great Britain being fairly strict, whilst the effect of all too many of such building ordinances of the United States as are on the Statute book is illusionary, the local supervision being either non-existent or too lenient. A test piece, such as the bay of a floor, or a door, when put before the British Fire Prevention Committee, need not be looked upon as something of quite exceptional excellence, as in the United States, *i.e.*, as something requiring quite abnormal test. The test piece with us is no doubt often of higher quality than that of the work in actual practice, but the standards allow for this, and in practice the British principle is equitable for home conditions as also for those of most European countries. Colloquially expressed, if a floor, actually executed in a structure in London under ordinary contract without the intention of test, passed the Universal Standard conditions for "full protection," with a 3 hours' duration instead of 4, it would be quite deserving of the 4 hours' classification, but for the test piece something more than 3 hours is requisite. It may be assumed that test pieces are frequently better by one-third than work in actual London practice, and this assumption, which was arrived at after the Testing Station had been in operation for four years, has been borne out in practice after giving a short description of the Testing Station and some particulars regarding the testing procedure.

The author moved the following resolutions:

FIRE RESISTANCE OF CONCRETE AND REINFORCED CONCRETE.

I. "That it is advisable in the future investigations of the strength of concrete and of reinforced concrete as used in buildings to obtain reliable data of the effect of fire at high and at moderate temperatures upon these materials."

II. "That the data required refer especially to: 1. (*a*) Loss of strength during fire; (*b*) Loss of strength after a fire (both upon rapid cooling and natural cooling). 2. (*a*) The value of different aggregates and proportions of portland cement to aggregate; (*b*) The value of different forms of reinforcement."

III. "That tests conducted with the view of obtaining these data in different countries be arranged as far as possible on a uniform basis, the 'universal standards' for fire tests of the British Fire Prevention Committee adopted at an International Conference in 1903 to serve as far as practicable as a basis for the testing conditions, these conditions having also been largely applied in the tests of the Columbia University Testing plant at New York and elsewhere."

IV. "That the Council of the International Association for Testing Materials create a special sub-committee (under Group 2, Cement, Concrete, etc.) to deal with any problems arising from the above, to be known as the 'Sub-Committee on the Fire Resistance of Concrete and Reinforced Concrete' and that this Sub-Committee be requested to report at the next Congress."

The Society of Architects, House List, 1912-13.

The following are the nominations for Officers and Council, 1912-13.

President, TUBBS, PERCY B., F.R.I.B.A., London. Vice-Presidents, LOVELL R. G., A.R.I.B.A., Eastbourne; MONSON, E. C. P., F.R.I.B.A., F.S.I., London. Honorary Secretary, LESLIE, COL., F. S., R.E. (*Past V.-P.*), Woolwich. Honorary Treasurer, PARTRIDGE, E. J., F.S.I., Richmond. Honorary Librarian, MIDDLETON, G. A. T., A.R.I.B.A. (*Past V.-P.*), London. Council, ADAMS, HENRY, M.INST.C.E., London; BEAUMONT, P. M., A.M.INST.C.E., Maldon; COOPER, H. A., Kettering; CORBY, J. B., F.S.I., Stamford; DAVIES, R. C., Chester; DICKENS-LEWIS, G., Shrewsbury; DUNCH, C., London; EMERSON, H. V. M., A.R.I.B.A., London; GILL, HARRY, Nottingham; HARRISON, G. A., Oxford; INGLIS, T. STEWART, London; JACK, R. A., London; JACKSON, C. E., London; MATTHEWS, HERBERT W., London; MAY, W. H., Plymouth; PAINE, GEORGE H., London; ROQUES, A. W., London; SADGROVE, EDWIN J., F.R.I.B.A., London; SCOTT, ANTHONY, Dublin; SCOTT, A. ALBAN H., London; VICKERY, T. S., London; WALLIS, THOMAS, London.

There are at present twenty-two candidates for eighteen seats on the Council. The ballot papers will be posted early in October to members entitled to vote.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Architects' and Surveyors' Approved Society.

SIR,—You will be interested to hear that the above Society has been approved by the Commissioners, and on their advice.

Applications have come in steadily since the scheme was first put forward, and there is now no doubt that such a Society is wanted.

We append some further information,* which we think will be helpful in view of the large number of inquiries we have received, and we shall be glad if you will give it publicity in your columns.

Anyone who is in sympathy with the Society, but who does not come under the scope of the Act, may become an Honorary Member at a subscription of 10/6 per annum or a donation of not less than £2, and such subscriptions will be devoted to defraying a portion of the necessary administrative expenses, and thereby increasing the benefits available to the Members.

In this way it is hoped that a community of interest will be established between Employers and Employees, which is an object everybody will desire to promote.

It is not necessary now that the Society has been approved that the forms of application for ordinary membership should be sent in by September 16th, but it is very important that as many applications as possible should be received before October.

Yours faithfully,

F. R. YERBURY (*Sec. A.A.*).
IAN MACALISTER (*Sec. R.I.B.A.*).
A. GODDARD (*Sec. Surveyors' Institution*).
C. McARTHUR BUTLER (*Sec. Society of Architects*).

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* See page 468.—ED.

Mainly about Members.

A new parish hall recently opened at Shoreham, Sussex, contains two halls, the lower of which seats 600, and the upper 500. The architect is MR. A. W. NYE, of Duke Street, Brighton. The cost was about £1,500.

The Old Watch House, in Bishopsgate, is about to be rebuilt. MR. A. E. PRIDMORE has designed for the leaseholders, a firm of tobacco merchants, a new building, which follows very closely on the lines of the old, thereby preserving the appearance of the corner of St. Botolph's Churchyard, where it is situated.

The Parish Church of Christchurch, Coleford, the first Church to be erected in the Forest of Dean in 1812, is celebrating its centenary by undergoing restoration at the hands of MR. ERNEST DAVIES, architect, of Hereford. The work consists of the removal of the old Gallery, reseating the Nave and North Aisle with modern seating to take the place of the high straight back pews, the erection of an oak Screen under the Chancel Arch and the building of a New Vestry adjoining the West Tower with Castellated top, flat roof and wood-block floors. It is to be built in Forest Stone with ashlar facing.

The new Council Schools at Broomfield consist of four classrooms, accommodating 50 each, one accommodating 60, and another accommodating 48 children, a total of 308. On the north side, separated from the classrooms by a 6 ft. corridor, are the cloakroom, teachers' rooms, storerooms, a wash-up place for the caretaker, and a marching corridor (which will also be used as a cookery room), 39 ft. 6 in. by 17 ft., jutting out into the playground. The school is heated throughout with open fires and a system of hot water pipes and radiators. The architects were MESSRS. C. and W. H. PERTWEE, of Chelmsford.

MR. J. W. B. BLACKMAN, the city engineer of New Westminster, British Columbia, was, says *The Surveyor*, born in Kent, in 1878, and was educated at Highbury House College, St. Leonards-on-Sea. His early professional training was received at the hands of Mr. G. F. Miller, M.I.MECH.E.; and later he studied at the Brighton College of Engineering and Science, where subsequently he held a mastership. For six years he practised at Brighton, and frequently contributed to the technical journals. In 1907 he accepted an appointment in Vancouver, and remained there until 1909, when he was elected to his present appointment. He is a Professional Associate of the Surveyors' Institution, a member of The Society of Architects, and an associate member of the Canadian Society of Civil Engineers.

Additions are being made to the East Conservative Club, Bournemouth, which is situate at the corner of Holdenhurst and Shelbourne Roads. The main entrance will be placed at the corner and will be comprised of vestibule, cycle store, and entrance hall, the latter giving access to the billiard-room, and, in addition, a reading room;

lavatory accommodation and extended refreshment service has been provided. The first floor is approached from the billiard room by a new staircase, and leading from the landing is the large club-room; committee and additional lavatory accommodation. At the back of the club-room, living rooms have been provided for the steward, with separate entrance and staircase. The principal elevations will be in red bricks with stone dressings. These works have been designed by Messrs Newton & Youngman, architects, Bournemouth.

Students' Fourth Quarterly Competition.

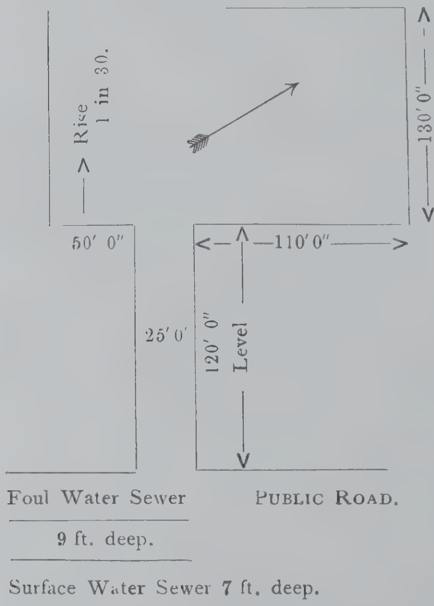
Quarter Ending December 25th, 1912.

A Cottage Hospital to cost not more than £1,900 including all sanitary and other fittings but exclusive of furniture.

The buildings are to be cubed up and the method of arriving at the price shown on one of the drawings.

The choice of style and materials is left entirely to the competitors but rough cast is not allowed.

The site as shown on plan is fenced in but suitable entrance gates must be provided.



Gas, water and electric light mains are in the road.

The accommodation required is:—

Male Ward for 6 beds.

Female ,, ,, 6 beds.

Probationary ,, 2 beds.

Two Nurses' Rooms.

Waiting Room, Drug Store and Small Operating Room.

Kitchen and Offices and Servants' Bedroom. The necessary Bath Rooms and Sanitary Accommodation.

The recognised principles of hospital planning must be duly considered, together with convenience of arrangement and economy of working, and provision must be made for adequate heating, cleansing, ventilation and lighting.

Drawings Required.—Block plan to a scale of 16 ft. to the inch, showing position of building, drains with sizes falls and depth, entrances, points of compass. A complete set of working drawings to $\frac{1}{8}''$ scale comprising plans, elevations of each front and at least two sections and one section of Ward Wall to 1½″ scale, showing finishings in detail. The drawings to be executed on white paper, imperial size and mounted.

The Competition is limited to Students who are not more than 23 years of age on December 25th, 1912.

The drawings must be delivered carriage paid, at the Society's offices, 28, Bedford Square, London, W.C., not later than 6 p.m. on the twenty-fifth day of December, 1912, without name, motto, or mark of identification, and must have attached to one of the drawings a plain sealed envelope containing the competitor's signature and address appended to a declaration that the drawings are the candidate's unaided work.

The plans will be numbered as received, and a corresponding number will be placed on the envelope, which will not be opened until after the award has been made.

The Council will not be responsible for any loss or damage that may occur to any drawing or document submitted in connection with this competition, though every reasonable care will be taken of the same.

The Council reserve the right of exhibiting or reproducing the drawings, and their decision on any matter arising is to be final.

A candidate who does not adhere to the conditions and instructions in every particular, will be disqualified.

Students' Competitions, 1912-13.

The following Competitions have been provisionally arranged for the Session 1912–13. Any modification thereof, together with the necessary conditions, etc., will be published in due course.

The Quarterly Competitions will be limited to Students under 23 years of age.

SUBJECT.	ASSESSOR.	VALUE.	LATEST DATE.
Cottage Hospital	E. J. Partridge, F.S.I.	£3 3*s*.	Dec. 25, 1912
Essay on the Training of an Architect	Percy B. Tubbs, F.R.I.B.A.	,,	Mar. 25, 1913
Almshouses (Travelling Studentship)	E. C. P. Monson, F.R.I.B.A.	£25 and Silver Medal	May 1, ,,
Sketches	Col. F. S. Leslie, R.E., and G. A.T. Middleton, A.R.I.B.A.	£3 3*s*.	June 24, ,,
Measured Drawings	,, ,,	,,	Sept 29, ,,
Architectural Scholarship, subject to be announced	,, ,,	£10	,, ,,

Index and Binding Cases.

The Index to Volume V. is published with this issue, and Binding Cases may be obtained from the Secretary on payment of Three Shillings each.

"Crypt," Westcent, London.

The attention of members is drawn to the revised telegraphic address of the Society. The index word "westcent" is not charged for by the Post Office, and its use facilitates the quick delivery of telegrams.

Meetings and other Fixtures, 1912.

Oct. 1st, 2nd, 3rd. Examinations for Membership.
,, 3rd. Council Meeting.
,, 17th. Twenty-ninth Annual General Meeting. 8 p.m.
Nov. 13th. The Society of Architects' Masonic Lodge Installation Meeting, Holborn Restaurant. 5 p.m.
,, 14th. First Ordinary Meeting Session 1912-13. President's Address.
Dec. 17th, 18th, 19th. Examinations for Membership in South Africa.
,, 25th. Students' Quarterly Competition closes.

Annual General Meeting.

The Twenty-ninth Annual General Meeting of The Society of Architects will be held at 28, Bedford Square, London, W.C., on Thursday, October 17th, 1912, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations and Announcements.
4. Ballot for candidates for Membership.
5. Council's Annual Report.
6. Election of Officers and Council, 1912–13.*

Light refreshments will be served after the meeting.
Smoking permitted.

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* The voting papers must reach the Secretary before 8 p.m., when the ballot closes.

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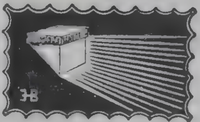

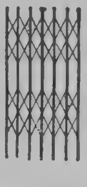

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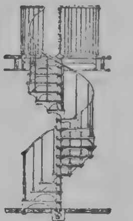

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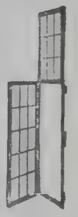

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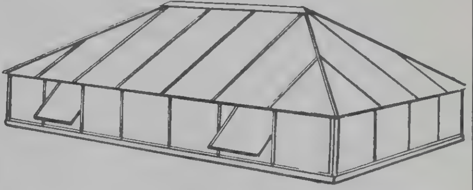

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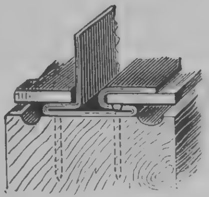

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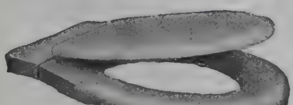

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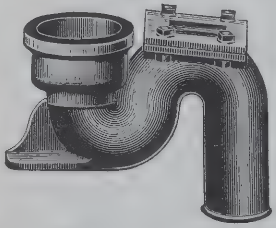

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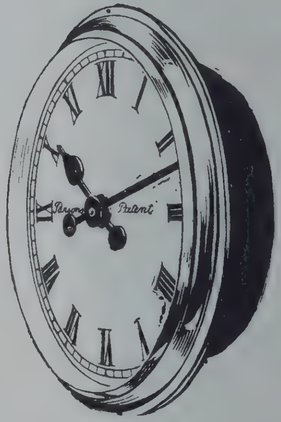

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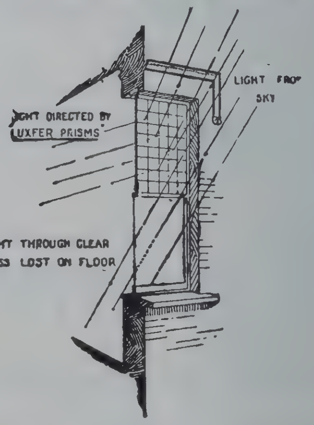

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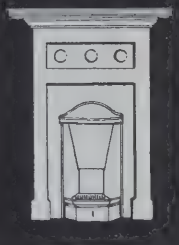

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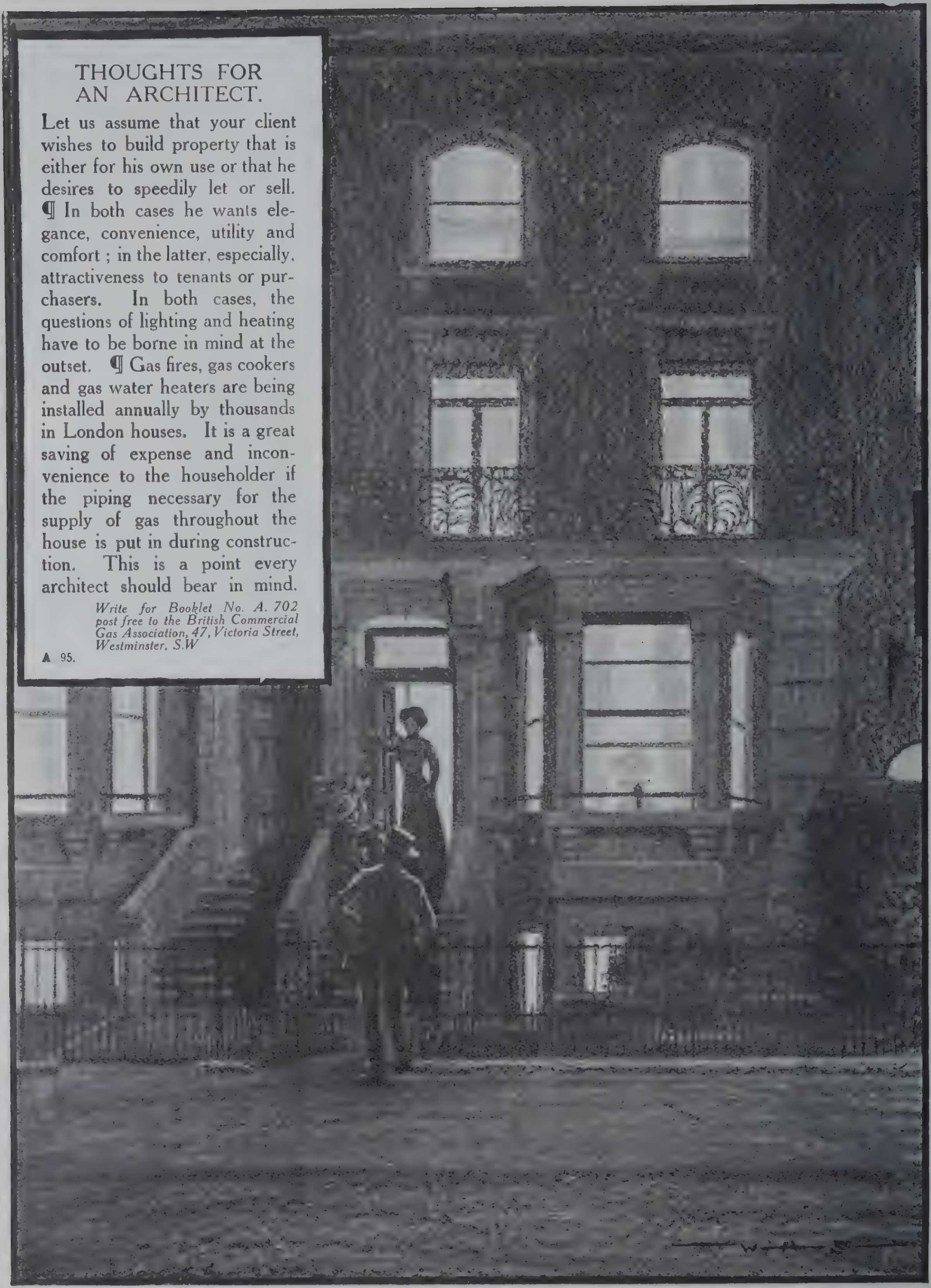

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